ARS-2030T/2033/2033P/ 2033S/2039 PCI-Based Copy Controller

User's Manual

—— Ver: 1.1 ——

Attention:

Wait over 5 seconds to power on after shutdown to prevent the abnormal operation of the system.

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ACARD Technology Corp. is not responsible for illegal recording.

WEEE Statement

WEEE Statement **English**

In order to cope with the increasing waste electrical and electronic equipment, reduce the use of landfill and incinerator, and prevent the harmful matter of waste equipment from entering the environment, the European Union (EU) has set the Directive on Waste Electrical and Electronic Equipment (WEEE) asking manufacturers to collect, recycle and treat waste electrical and electronic equipment properly. Member nations already established their free of charge recycle systems of WEEE before August 13, 2005. Accordingly, ACARD has to be responsible for recycling all products exported to Germany. You can return your ACARD product that needs recycling to a local collector.

WEEE Erklärung **German**

Mit dem Ziel die steigende Menge elektrischer und elektronischer Altgeräte zu bewältigen ohne hierzu unnötig Mülldeponien und Verbrennungsanlagen zu belasten und um die Verschmutzung der Umwelt durch freiwerdende Stoffe aus den Altgeräten zu vermeiden, hat die Europäische Union (EU) die Richtlinie über Elektro- und Elektronik-Altgeräte erlassen. Die Richtlinie verpflichtet Hersteller, elektrische und elektronische Altgeräte umweltgerecht einzusammeln, zu recyceln und zu entsorgen. Die Mitgliedsstaaten der EU haben bereits ihre kostenfreien Recyclesysteme konform der WEEE vor dem 13. August 2005 eingerichtet. Entsprechend der Richtlinie ist ACARD verantwortlich für die umweltgerechte Entsorgung aller nach Deutschland exportierten ACARD Produkte. Sie können Ihr zu entsorgendes ACARD Produkt zu Ihrer örtlichen Sammelstelle bringen.

AEEA verklaring **Dutch**

Met het doel de stijgende hoeveelheid afgedankte elektrische en elektronische apparatuur te beheersen zonder hiervoor onnodig stortplaatsen en verbrandingsovens te belasten en om de vervuiling van het milieu door vrijkomende stoffen uit de afgedankte apparatuur te voorkomen, heeft de Europese Unie (EU) de richtlijn betreffende afgedankte elektrische en elektronische apparatuur besloten. Deze richtlijn verplicht fabrikanten afgedankte elektrische en elektronische apparatuur in te zamelen, te recyclen en te verwijderen. De lidstaten van de EU hebben reeds de kosteloze recyclesystemen volgens de AEEA vóór de 13 augustus 2005 ingericht. Conform de richtlijn is ACARD verantwoordelijk voor de verwijdering van alle naar Nederland geëxporteerde ACARD producten. U kunt uw afgedankt ACARD product naar uw locale inzamelplaats brengen.

Elektrik ve Elektronik Madde Atıkları Demeci **Turkish**

Elektrik ve electronik madde atıklarının yukselmesiyle basedebilmek ,arazi doldurma ve cop yakma fırını kullanımını azaltmak,atık madde zararlarının cevreye yayılmasını onlemek icin Avrupa Birligi (AB),ureticilerden elektrik ve elektronik madde atıklarını gerektigi gibi toplamalarını,geri donusturmelerini ve kimyasal isleme tabi tutmalarını talep etmek icin Elektrik ve Elektronik Madde Atıkları uzerine bir direktif hazırladı.Topluluk uyeleri,13 Agustos 2005' ten once elektrik ve elektronik madde atıklarının ucretsiz geri donusum sistemlerini coktan olusturmuslardı.Bundan dolayı, ACARD, Almanya'ya ihrac ettigi butun urunlerin geri donusumunden sorumludur. ACARD urunleri geri donusum gerektirirse yerel toplayıcılara geri verebilirsiniz.

WEEE бюлетень **Russian**

Чтобы справиться с увеличивающимся ненужным электрическим и электронным оборудованием, уменьшите использование закапывания мусора и использования установки для сжигания отходов, препятствуйте вредному выбросам загрязнять окружающую среду, Европейский союз (ЕС)установил Директиву по Ненужному Электрическому и Электронному Оборудованию (WEEE) для того, чтобы изготовителей собрали, перерабатывали и вообще проявили внимание к ненужному электрическому и электронному оборудованию должным образом. Члены нации установили бесплатную систему переработки WEEE до 13 августа 2005. Соответственно, ACARD обязан быть ответственным за то, что переработал все продукты, экспортируемые в Германию. Вы можете возвратить ваш продукт ACARD, который нуждается в рециркуляции местному сборщику.

WEEE Statement **French**

Afin de gérer la quantité croissante de déchets électriques et électroniques, de réduire l'utilisation des décharges et des incinérateurs et d'éviter que des déchets nocifs ne polluent l'environnement, l'Union Européenne a publié la directive WEEE sur les déchets électriques et électroniques. Celle-ci spécifie que les fabricants doivent collecter, recycler et traiter l'équipement électronique et électrique usagé. Depuis le 13 août 2005, les pays membres ont mis en place un système de recyclage gratuit selon le WEEE.

De ce fait, Acard est responsable du recyclage de tous les produits exportés vers l'Allemagne. Vous pouvez mettre au rebut votre équipement ACARD usagé dans votre centre local de recyclage.

Pour plus d'informations sur les lieux de mise au rebut des équipements usagés destinés au recyclage, veuillez contacter votre mairie, votre service de traitement des déchets ménagers ou le magasin où vous avez acheté le produit.

RAEE **Spanish**

Con la finalidad de reducir el incremento de residuos eléctricos y de material electrónico, reduciendo el uso de los vertederos e incineradoras y prevenir el preocupante aumento del contacto de estos residuos con el medio ambiente. Por este motivo la Unión Europea ha fijado la Directiva de Residuos de Aparatos Eléctricos y Electrónicos (RAEE) solicitando a los fabricantes la recolección, reciclaje y tratamiento de ests residuos correctamente. Los paises miembros ya han establecido su sistema de reciclaje gratuito de RAEE antes del 13 de Agosto del 2005. Por este motivo ACARD es el responsable del reciclaje de todos los productos exportados a Alemania. Usted puede devolver su producto ACARD a un punto de recogida local cuando desee reciclarlo.

Dichiarazione WEEE **Italian**

Per far fronte all'aumento dei residui delle apparecchiature elettriche ed elettroniche, ridurre l'uso di materiale di riporto e degli inceneritori, ed impedire che il materiale nocivo delle apparecchiature residue entri a contatto con l'ambiente, l' Unione Europea (UE) ha stabilito le Direttive sui Residui delle apparecchiature Elettriche ed Elettroniche (WEEE) chiedendo ai fornitori di raccogliere correttamente, riciclare e trattare le apparecchiature elettriche ed elettroniche residue. Le nazioni facenti parte dell' Unione Europea hanno già stabilito il loro sistema gratuito di riciclaggio di questo materiale (WEEE) prima del 13 agosto 2005. Di conseguenza, ACARD è responsabile del riciclaggio di tutti i prodotti esportati in Germania. Potete restituire il vostro prodotto acquistato da ACARD che deve essere riciclato da un' azienda specifica locale.

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Chapter 1 Introduction

1.1 Overview

ARS-2030T, 2033, 2033P, 2033S, and 2039 are all PCI-based copy controllers that support high-speed CD/DVD writers. ARS-2030T is a 1-to-3 model, ARS-2033, 2033P, 2033S are 1-to-7 models, and ARS-2039 is a 1-to-9 model.

ARS-2030T/2033/2033P/2033S/2039 doesn't need connecting to a computer. Through the LCD and 4 buttons on the copy controller's panel, you can copy data, audio or video CD/DVD easily and quickly. It is fit for companies to do a small amount of production.

Usually if you want to back up a lot of CD/DVDs, you have to boot the computer, and do the job via a recording program. It takes time to learn how to use the software and more time to execute the recording. In view of this, ACARD has launched ARS-2030T/2033/2033P/2033S/2039 for you to easily operate and copy 3, 7 or 9 discs at the same time.

ARS-2030T/2033/2033P/2033S/2039 is a valuable product of technology. You can use it as a standalone copy controller. Besides, if you have purchased ACARD's AEC-4420P/PB USB Link (see Appedix A), you can connect it to the computer, to ARS-2030T/2033/2033P/2033S/2039, and to one of the DVD writers connected with the copy controller. Thus, the copy controller becomes an external writer for the computer. When the hardware is used together with ACARD's recording software, Ha! DVD Burner, the combination will be the best solution.

1.2 Features

- Standalone IDE to IDE DVD copy controller
- Totally independent without installing hardware or software
- Supports a 3.5” hard drive
- Supports high-speed 1-to-3, 1-to-7 or 1-to-9 DVD copying
- A user-friendly interface with LCD showing message
- Optional functions for applications

1.3 Specifications

- 2030T/2039 : ACARD ATP-865 IDE processor
  2033/2033P/2033S : ACARD ATP-867 IDE processor
- 32-bit RISC CPU
- 2030T : 32 MB DDR memory
  2033/2033P/2033S/2039 : 64 MB DDR memory
- 4 (1-to-3) / 8 (1-to-7) / 10 (1-to-9) independent IDE channels
- 2 × 16 LCD (2 × 18 for Chinese and Japanese)
- 4 membraned buttons on the panel
- 512 KB flash memory for boot loader
- 2 MB flash memory for copy code
- Firmware update by DVD-ROM
- Power Voltage: 5V±5%, Current: 1.5A Max
- Environment Operation: 0°C to 60°C
  Nonoperation: -20°C to 85°C
- Humidity 15% to 90%
- Dimension 2030T: D 145 / W 150 / H 42 mm
  2033/2033P/2033S/2039: D 225 / W 150 / H 42 mm

1.4 System Requirement

- 2030T : upright external case 5/6 × 5.25”
  2033/2033P/2033S : upright external case 9/10 × 5.25”
  2039 : upright external case 11/12 × 5.25”
- Power supply : 300 watt or above
- ATA133 cable
- DVD-ROM×1
- DVD writer × 3 or 7 or 9
- Hard drive (optional)
- HDD tray (optional)
- AEC-4420P (optional)

Chapter 2 Hardware Installation

Before installing ARS-2030T/2033/2033P/2033S/2039, notice that there are three kinds of packages: the copy controller only, a whole copying system and a system without DVD drives.

2.1 Copy Controller Only

- Unpack the package, and examine if there is any defect or malfunction.
- Prepare a DVD-ROM.
- Prepare 3 or 7 or 9 DVD writers.
- Prepare a 3.5” hard drive (optional).
- All IDE devices are in Master mode (but when connecting a hard drive, DVD-ROM is set as Slave while hard drive as Master).

2.2 A Whole System

- Unpack the package, and examine if there is any defect or malfunction.
- Prepare a 3.5” hard drive (optional).
- Be sure that the watt of power supply is sufficient.

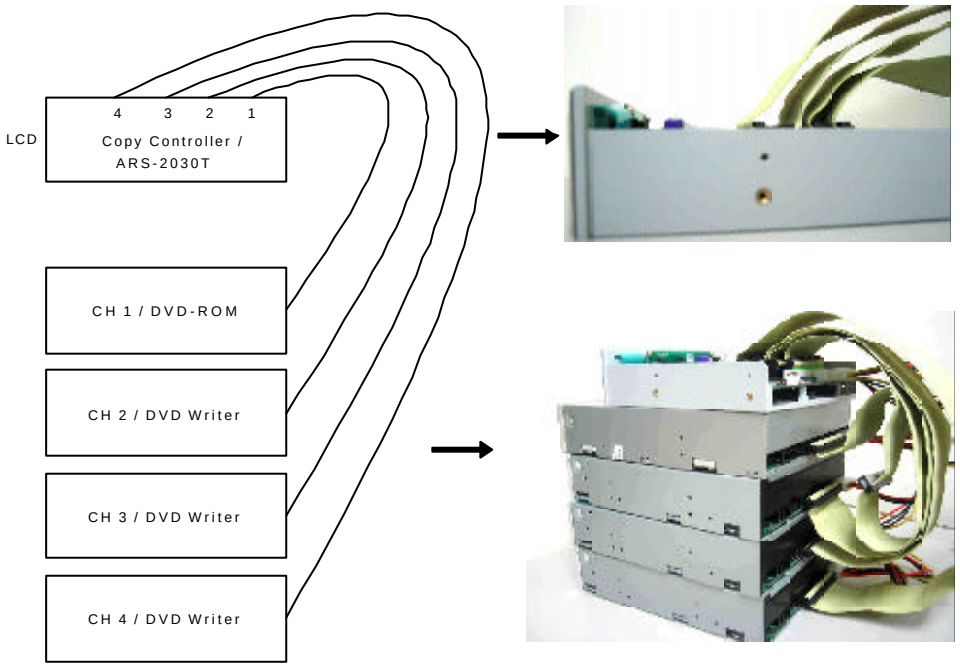
2.3 A System without DVD Drives

- Unpack the package, and examine if there is any defect or malfunction.
- Prepare a DVD-ROM.
- Prepare 3 or 7 or 9 DVD writers.
- Prepare a 3.5” hard drive (optional).
- Be sure that the watt of power supply is sufficient.

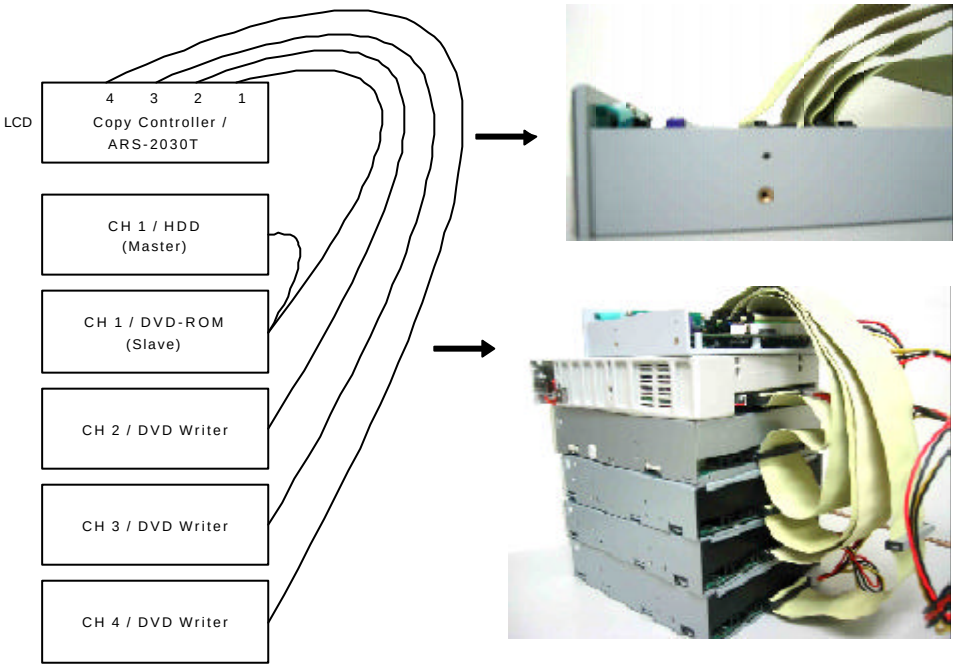
2.4 How to Install

2.4.1 Install 2030T

The following diagram and pictures indicate the installation of ARS-2030T copy controller with a DVD-ROM and 3 DVD writers.



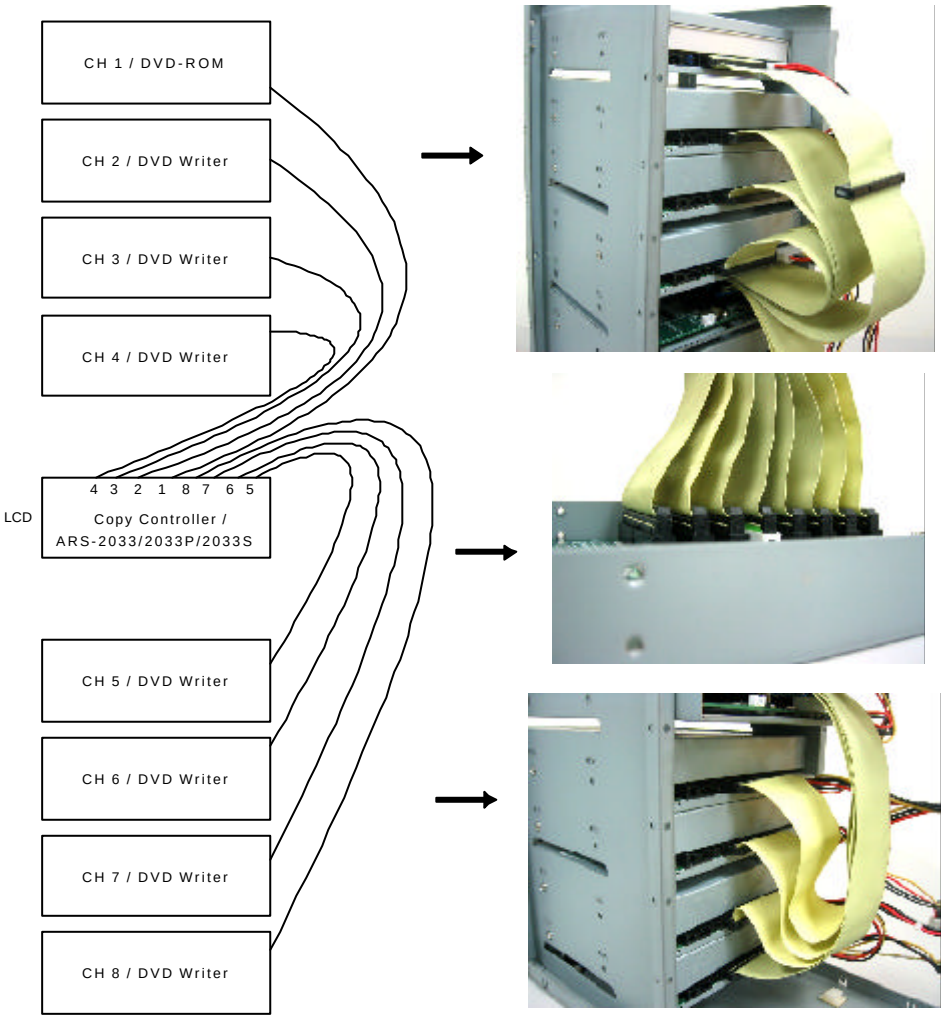
The following diagram and pictures indicate the installation of ARS-2030T copy controller with a hard drive, a DVD-ROM and 3 DVD writers. The second picture shows that the hard drive is put inside a tray.



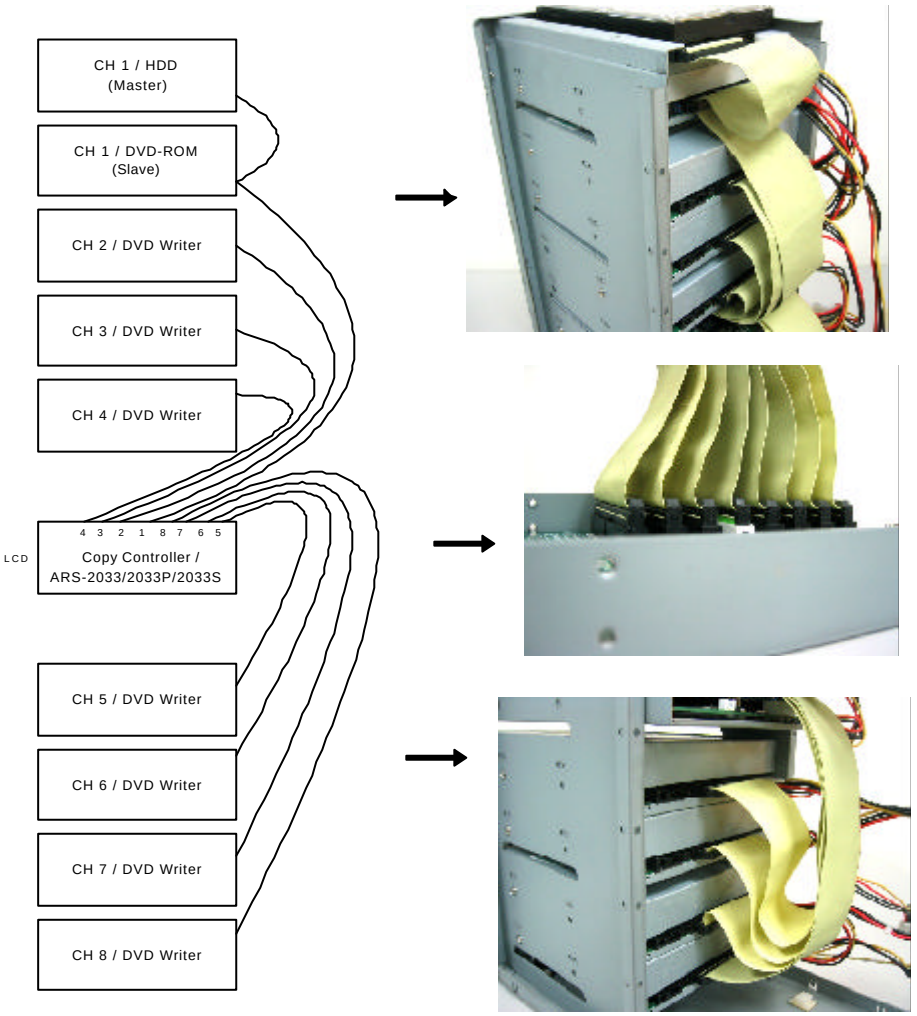
Installation with a hard drive

2.4.2 Install 2033/2033P/2033S

The following diagram and pictures indicate the installation of ARS-2033/2033P/ 2033S copy controller with a DVD-ROM and 7 DVD writers.


CH 1 / DVD-ROM
CH 2 / DVD Writer
CH 3 / DVD Writer
CH 4 / DVD Writer
LCD
4 3 2 1 8 7 6 5
Copy Controller /
ARS-2033/2033P/2033S
CH 5 / DVD Writer
CH 6 / DVD Writer
CH 7 / DVD Writer
CH 8 / DVD Writer

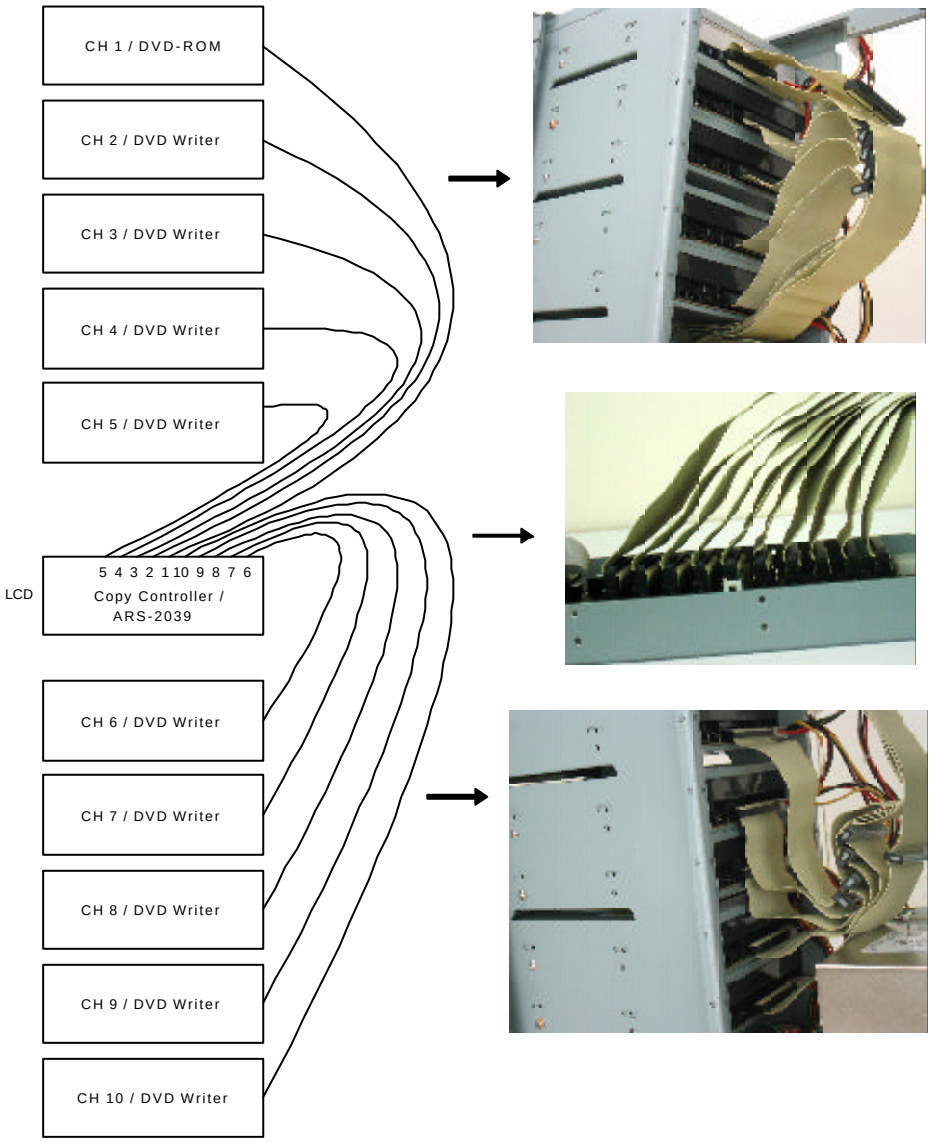
The following diagram and pictures indicate the installation of ARS-2033/2033P/ 2033S copy controller with a hard drive, a DVD-ROM and 7 DVD writers.



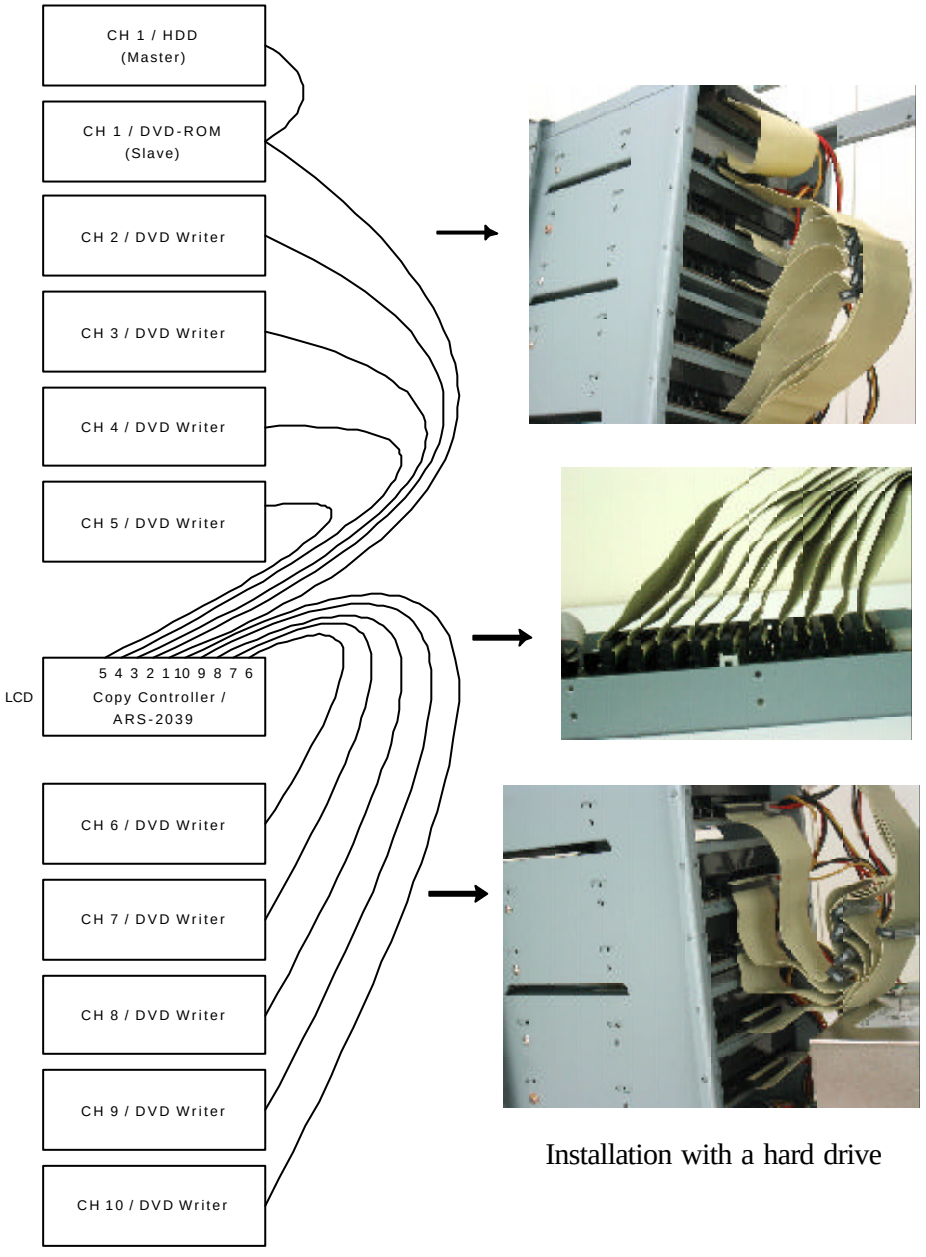
Installation with a hard drive

2.4.3 Install 2039

The following diagram and pictures indicate the installation of ARS-2039 copy controller with a DVD-ROM and 9 DVD writers.


CH 1 / DVD-ROM
CH 2 / DVD Writer
CH 3 / DVD Writer
CH 4 / DVD Writer
CH 5 / DVD Writer
LCD
5 4 3 2 1 10 9 8 7 6
Copy Controller /
ARS-2039
CH 6 / DVD Writer
CH 7 / DVD Writer
CH 8 / DVD Writer
CH 9 / DVD Writer
CH 10 / DVD Writer

The following diagram and pictures indicate the installation of ARS-2039 copy controller with a hard drive, a DVD-ROM and 9 DVD writers.

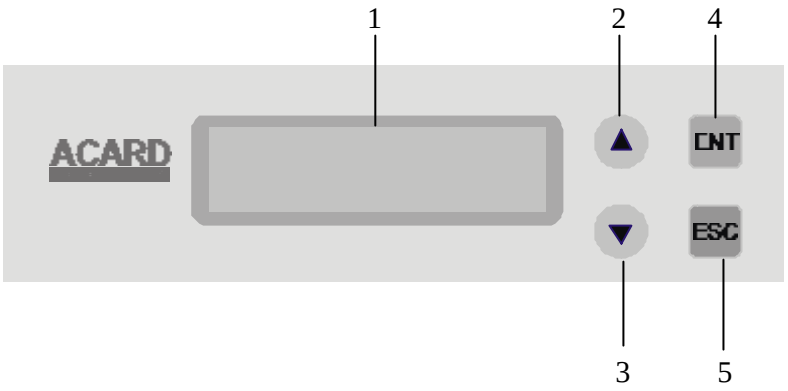

CH 1 / HDD
(Master)
CH 1 / DVD-ROM
(Slave)
CH 2 / DVD Writer
CH 3 / DVD Writer
CH 4 / DVD Writer
CH 5 / DVD Writer
LCD
5 4 3 2 1 10 9 8 7 6
Copy Controller /
ARS-2039
CH 6 / DVD Writer
CH 7 / DVD Writer
CH 8 / DVD Writer
CH 9 / DVD Writer
CH 10 / DVD Writer

Installation with a hard drive

Chapter 3 Basic Instructions

3.1 Buttons and LCD

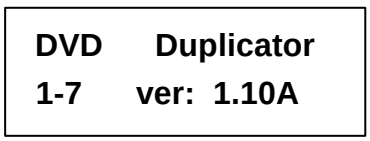
There are 4 membraned buttons and an LCD on the panel of ARS-2030T/2033/ 2033P/2033S/2039.



1. It shows all functions and messages.
2. It is used to scroll up through functions or menus.
3. It is used to scroll down through functions or menus.
4. It is used to execute a selected function.
5. It is used to cancel a selected function.

Here we take ARS-2033 as an example to demonstrate.

1.



2.

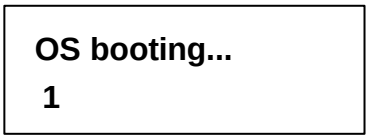


Figure 1 shows the firmware version of ARS-2033. Figure 2 shows that OS booting takes 20 seconds or so. It depends on how many writers you have installed.

3.

Figure 3 shows the first function Copy. There are 12 functions. You can press ▼ to see other functions.

3.2 About HDD Installation

HDD installation is not necessary, but with a hard disk you can use the function of Image. In other words, you have one more choice to reproduce a DVD from an image file stored in the hard disk. The following two subsections are about installing a 3.5" hard disk and not installing respectively.

3.2.1 With a HDD

If you have installed a 3.5" hard disk to your copy controller, you need to operate according to the following procedures.

- Once your copy controller detects the hard disk, it will ask if you want to format. A 30GB of hard disk can be divided into 6 partitions. In DVD a partition occupies 5GB, in CD 1GB and in DL 10GB.
- Use function 8 Select Source to set the hard disk as the source.
- In function 9 Image, select a partition to store the data.
- If there is no data in a selected partition, place a source DVD into DVD-ROM, and use function 9-01 Load to transmit data from DVD into the selected partition by pressing **ENT**. Different data can be stored in different partitions.
- Switch to function 1 Copy by pressing ▲. Place blank DVDs into DVD writers, and press **ENT** to start copying.

- When copying comes to an end, the passed DVDs will eject automatically. The default is ejecting automatically, but you can change it.
- The failed DVDs will remain in the writers. The default is keeping failed DVDs in the writers, but you can change it. To take the failed DVDs you need to press the "eject" buttons on the writers.
- During operation do not press any button on your copy controller, because interruption will harm the device, and DVDs will be damaged, too.

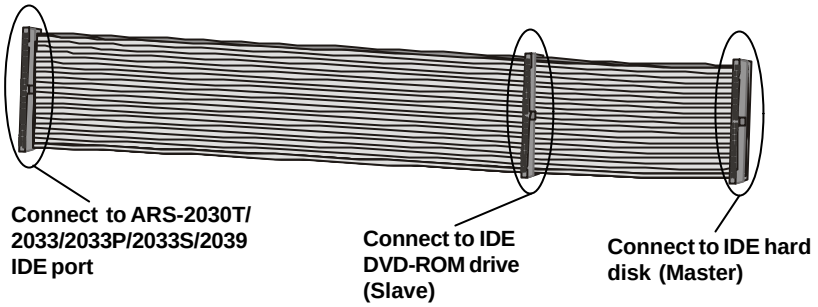
3.2.2 Without a HDD

If you haven't installed a 3.5" hard disk to your copy controller, you need to operate according to the following procedures.

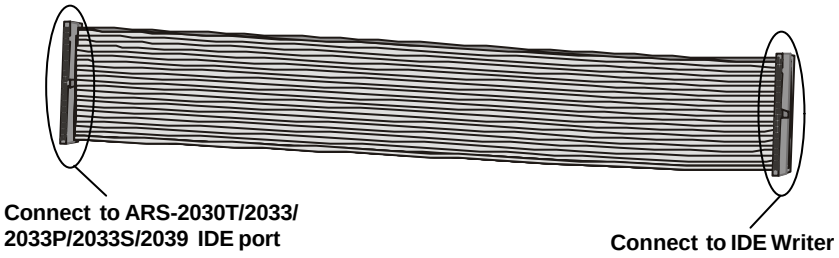
- Place a source DVD into DVD-ROM.
- Switch to function 1 Copy by pressing ▲. Place blank DVDs into DVD writers, and press **ENT** to start copying.
- When copying comes to an end, the passed DVDs will eject automatically. The default is ejecting automatically, but you can change it.
- The failed DVDs will remain in the writers. The default is keeping failed DVDs in the writers, but you can change it. To take the failed DVDs you need to press the "eject" buttons on the writers.

Identify two different cables before hardware installation.

1. Three connectors for DVD-ROM or optional HDD

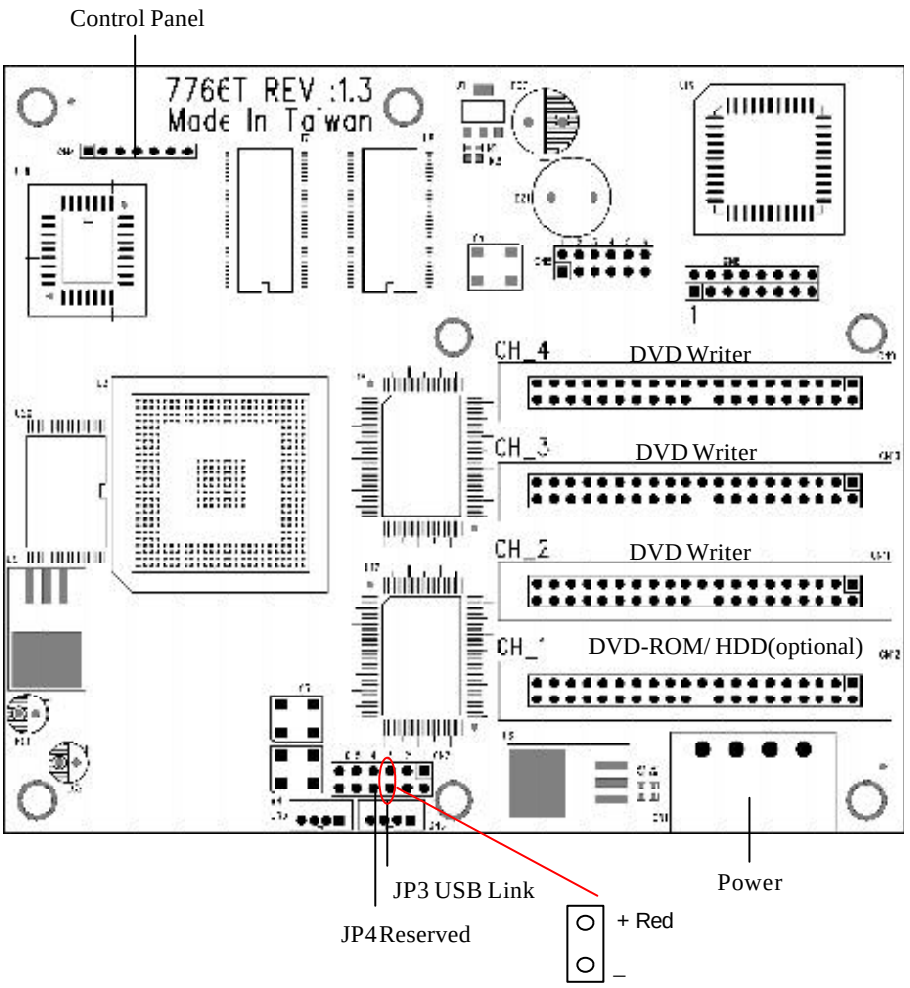


2. Two connectors for DVD writers



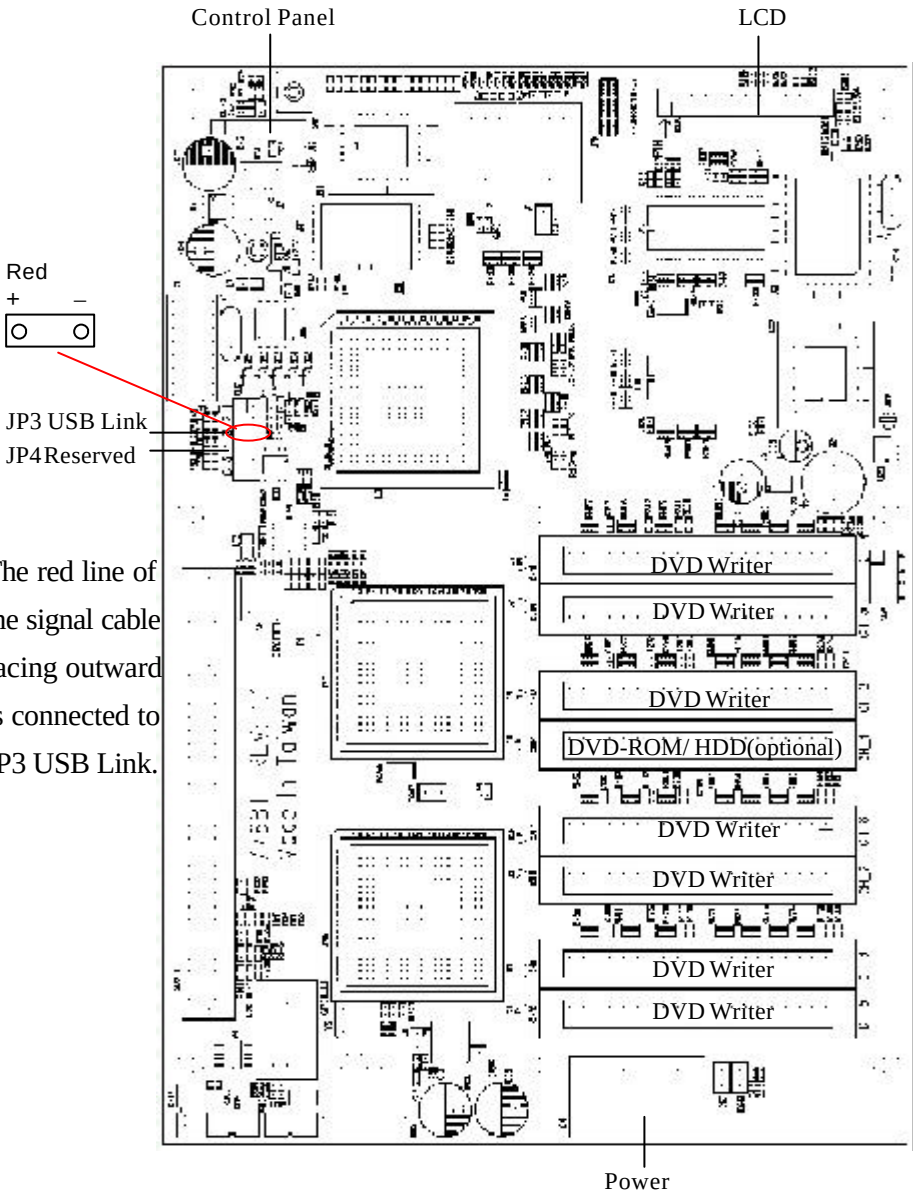
Chapter 4 Board Layout

The board layout of ARS-2030T is shown as follows.



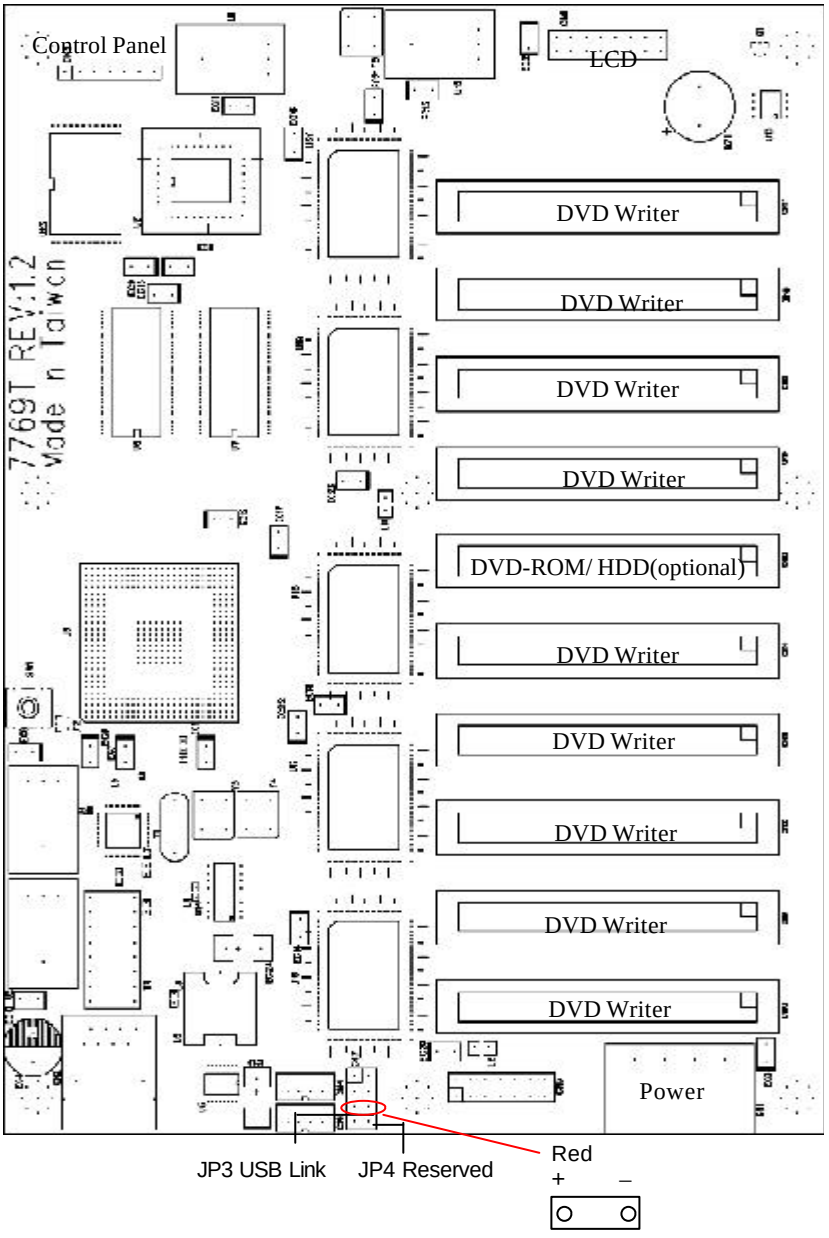
The red line of the signal cable facing control panel is connected to JP3 USB Link.

The board layout of ARS-2033/2033P/2033S is shown as follows.



The red line of the signal cable facing outward is connected to JP3 USB Link.

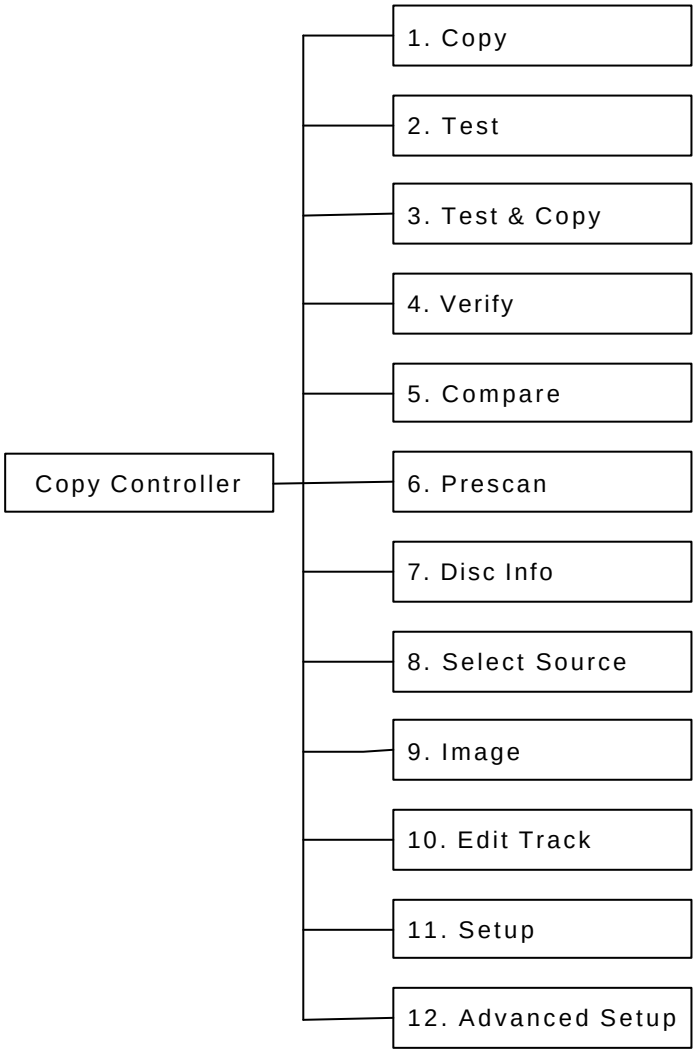
The board layout of ARS-2039 is shown as follows.



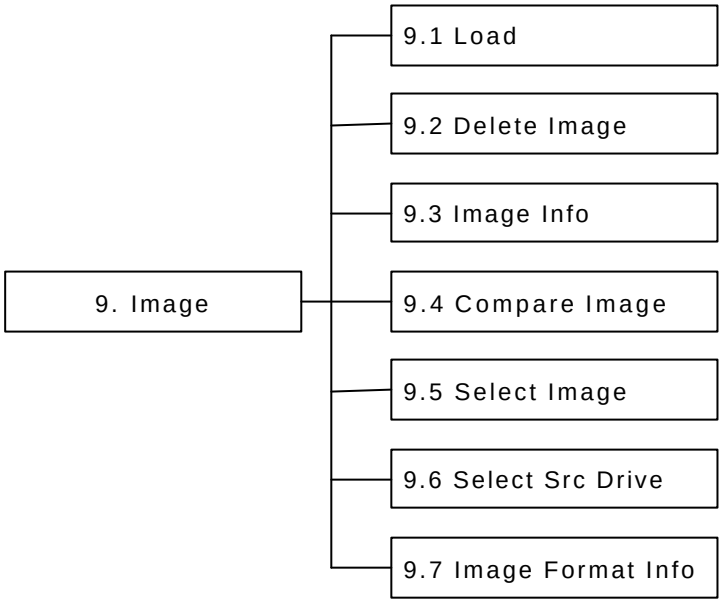
The red line of the signal cable facing the right is connected to JP3 USB Link.

Chapter 5 Functions

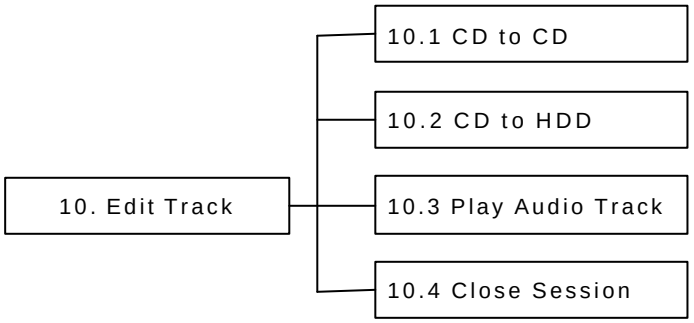
There are 12 major functions in the copy controller, and there are subfunctions in Function 9, 10, 11, and 12 as the following figures show.



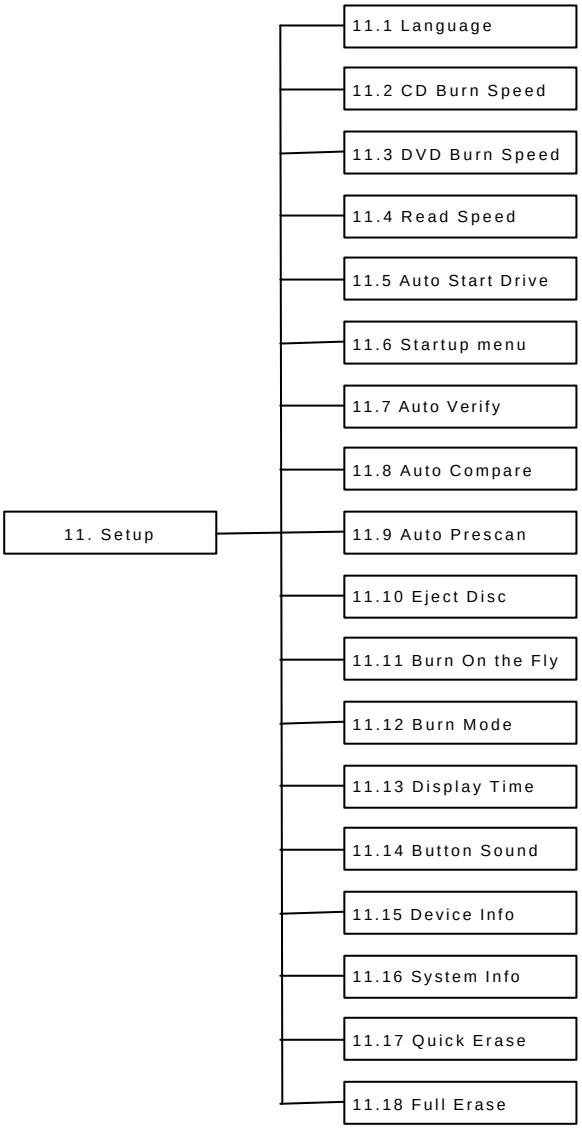
In Function 9 there are 7 subfunctions.



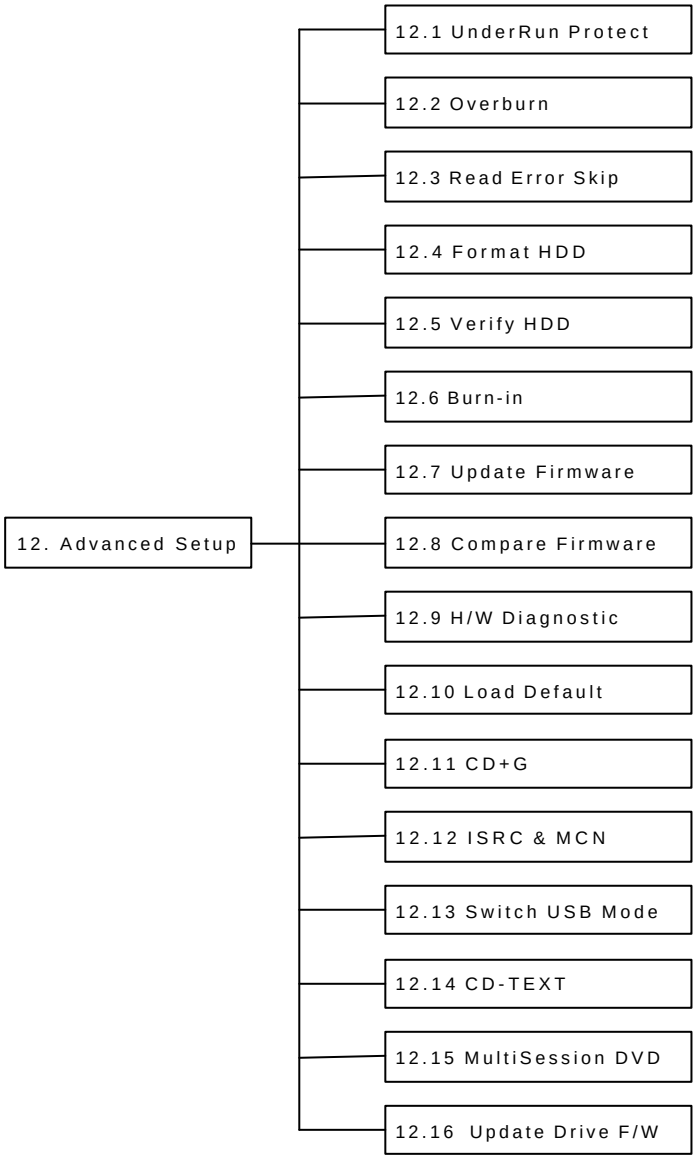
In Function 10 there are 4 subfunctions.



In Function 11 there are 21 subfunctions.



In Function 12 there are 16 subfunctions.

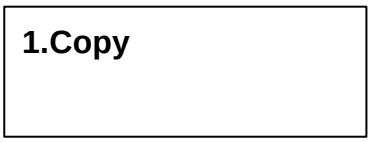


Among the 12 functions, Function 10 Edit Track is designed exclusively for editing a collection of favorite songs from CDs. During operation if you don't understand an LCD message, see Appendix 2 . From now on we take ARS-2033 as an example to demonstrate.

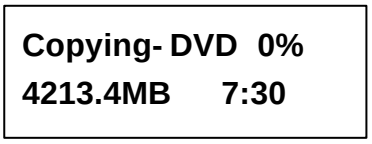
5.1 Copy

Function 1 Copy is to copy data from a source DVD directly into blank DVDs. Before copying be sure that the source DVD is placed into DVD-ROM, or there are data in a certain HDD partition if you have installed a hard disk. If you are not so sure of real copying, use Function 2 Test to simulate first.

Select function 1. Put a source DVD into DVD-ROM and blank DVDs into the DVD writers. A rewriteable DVD containing old data is also usable, but the old data will be automatically erased.



After the DVD-ROM and DVD writers detect DVDs, press **ENT** to start copying. LCD will show the copying information as follows.



When copying is in progress, MB and time will decrease while the percentage of completion will increase. “MB” means the size of data that you want to copy.

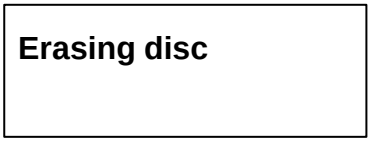
When copying comes to an end, LCD will show the results as follows. The passed DVDs will eject automatically.

5.2 Test

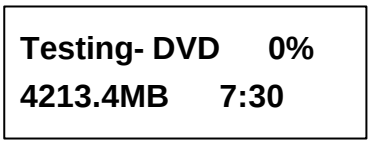
Function 2 Test is to simulate the copying progress. When simulation finishes, there will be no data really written into DVDs.

Select function 2. Put a source DVD into DVD-ROM and blank DVDs into the DVD writers. Only a DVD-R disc supports this function.

Press **ENT** to start simulation. If you use DVD rewriteable discs that contain data, the old data will be quickly erased before simulation as shown below.



LCD will show the testing information as follows.



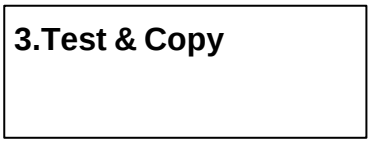
When the test comes to an end, LCD will show the results as follows.

Stopping the test halfway does not affect the DVDs, but if the DVD-rewriteable discs contain important data, they may be destroyed.

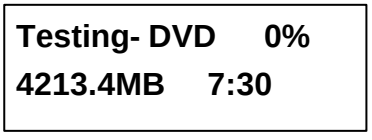
5.3 Test & Copy

Function 3 Test & Copy is to test first and then copy actually.

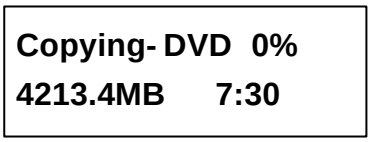
Select function 3. Put a source DVD into DVD-ROM and blank DVDs into the DVD writers.



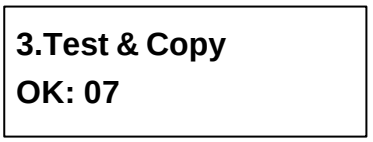
Press **ENT** to start simulation. LCD will show the testing information as follows.



When the test finishes, actual copying will begin as shown below.



When the whole process finishes, LCD will show the results as follows.



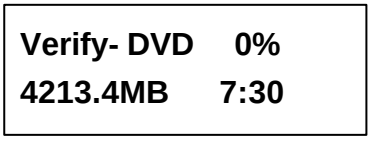
Note that those discs that have passed the test will be copied right away while those that haven't won't be.

5.4 Verify

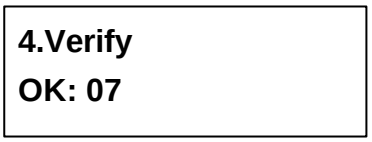
Function 4 Verify is to examine if the target DVDs can be read correctly after copying.

Select function 4.

Press **ENT** to verify. LCD will show the verification information as follows.



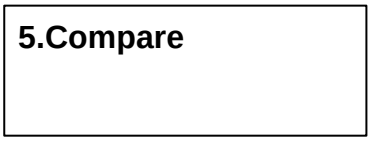
When verification comes to an end, LCD will show the results as follows.



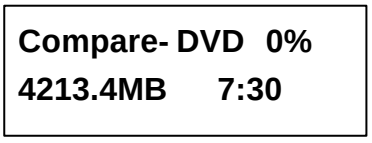
5.5 Compare

Function 5 Compare is to make a comparison between the source DVD and the target DVDs after copying.

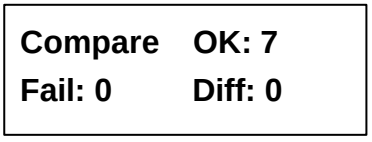
Select function 5. Put the source DVD into DVD-ROM and the target DVDs into DVD writers.



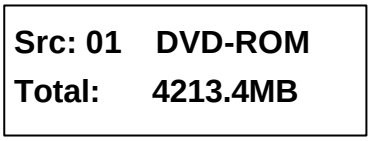
Press **ENT** to compare. LCD will show the comparison information as follows.



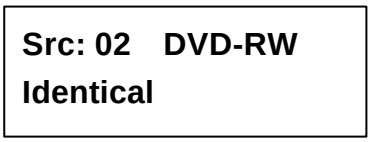
When comparison comes to an end, LCD will show the results as follows.



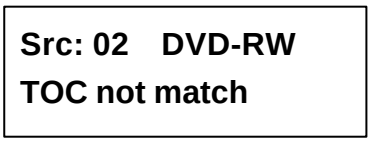
Press **ENT** to see the details of source 1 as shown below.



Press **ENT** to see the details of source 2. If the comparison is identical, LCD will show the message as follows.



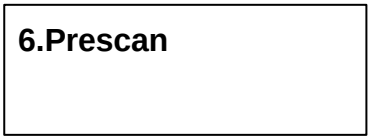
If comparison fails, LCD will show the failure. By pressing **ENT** twice, LCD will show that the contents of source 1 and those of source 2 do not match as follows.



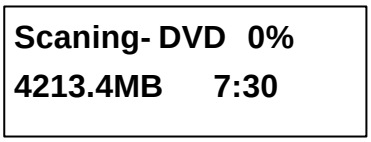
5.6 Prescan

Function 6 Prescan is to scan if the source DVD can be read correctly, and by the way to test the reading speed.

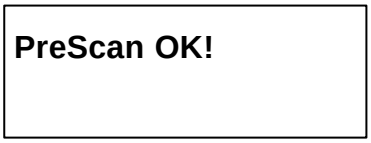
Select function 6. Put the source DVD into DVD-ROM.



Press **ENT** to prescan. LCD will show the scanning information as follows.



When scanning finishes, and the source DVD can be read correctly, LCD will show the results as follows.

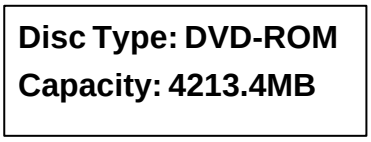


5.7 Disc Info

Function 7 Disc Info is to show the basic information of source DVD.

Select function 7. Put the source DVD into DVD-ROM.

Press **ENT**, and LCD will show the DVD information as follows.



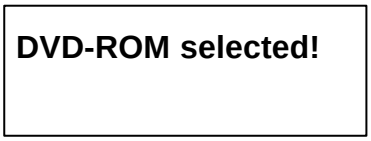
5.8 Select Source

Function 8 Select Source is to let you select the data on DVD-ROM, DVD writers or HDD as the source from which copying will be done.

Select function 8.

Press **ENT**, and then press ▲ ▼ to select the source as shown below.

After selecting the source such as DVD-ROM, you can press **ENT**, and LCD will show the message as follows.



Suppose you select HDD as the source and try to copy from one of its partitions, but the partition contains no data, an error message will appear on LCD. At this moment, you can switch to another partition that contains data, or use function 9 Image to load the data into the chosen partition first.

5.9 Image

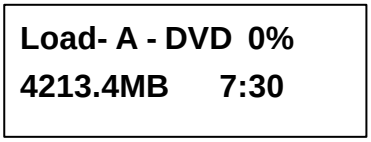
Function 9 Image is valid only when you have installed a hard disk. This function includes 7 subfunctions: Load, Delete Image, Image Info, Compare Image, Select Image, Select Src Drive, and Image Format Info. The loaded data is called an image file. **Refer to page 24 for the figure of menu**.

Select function 9.

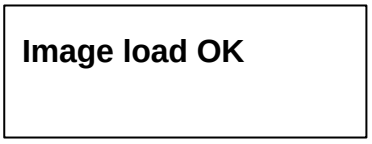
5.9.1 Load

Now press **ENT**, and you will enter the following figure. Here the function Load is to let you load data from DVD-ROM or any one of the DVD writers into the current partition of the hard disk. “P:A” means partition A.

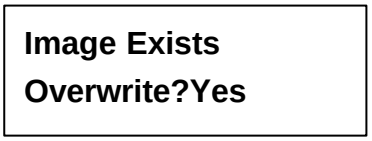
Press **ENT** to load. LCD will show the loading information as follows.



After the image file is successfully loaded, LCD will show the results as follows.



If there is an image file existing in the current partition, the system will ask you whether to overwrite it or not. Please use ▲ ▼ to confirm Yes or No.



5.9.2 Delete Image

If you want to delete an image file stored in a particular partition, you can use the function Delete Image to do so. First, select the function by pressing ▼.

The system will ask if you are sure to delete. Use ▲ ▼ to confirm Yes or No.

After the image file is deleted, LCD will show the results as follows.

Partition A:
Image is deleted

5.9.3 Image Info

This function is to show the basic information of an image file stored in a particular partition. First, select the function by pressing ▼.

9-03. Image P: A
Image Info

Press **ENT**, and LCD will show the information of the image file as follows.

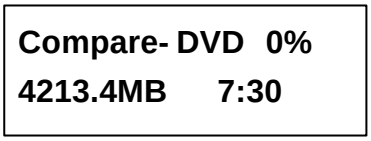
Disc Type: DVD-ROM
Capacity: 4213.4MB

5.9.4 Compare Image

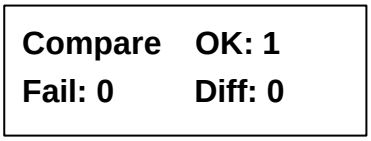
This function is to compare the contents of the source DVD and those of the image file in the partition. First, select the function by pressing ▼.

9-04. Image P: A
Compare Image

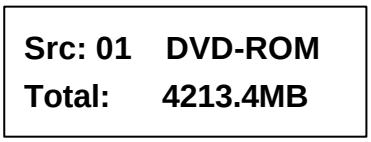
Press **ENT**, and LCD will show the comparison information as follows.



When comparison comes to an end, LCD will show the results as follows.

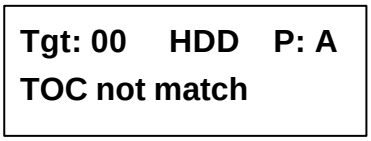


Press **ENT** to see the details of source as shown below.



Press **ENT** to see the details of target. If the comparison is identical, LCD will show the message as follows.

If comparison fails, LCD will show the failure. By pressing **ENT** twice, LCD will show that the contents of source and those of target do not match as follows.



5.9.5 Select Image

This function is to select a partition in the hard disk. First, select the function by pressing ▼.

9-05. Image P: A
Select Image

After installing a hard disk, your copy controller will format it automatically. Each partition occupies 5GB. The number of partitions is dependent on the hard disk's capacity. The partitions are alphabetically arranged. Select a partition by pressing ▲▼, and LCD will show the message as follows.

Select Partition
A: DVD 4213.4MB

After the partition is selected, LCD will show the results as follows.

Set Partition to
A

5.9.6 Select Src Drive

This function is to select DVD-ROM or any of the DVD writers as the source from which you can load data into a particular partition as an image file.

First, select the function by pressing ▼.

9-06. Image P: A
Image Src Drive

Then, use ▲▼ to select DVD-ROM or any of the DVD writers as the source.

Select Img Src:
01 IDE1 DVD-ROM

After selecting the source such as DVD-ROM, you can press **ENT**, and LCD will show the message as follows.

Load image from
Drive ID-01

5.9.7 Image Format Info

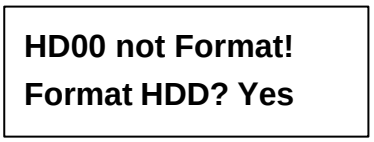
This function is to see how you have formatted your hard disk. It is related to function 12.4 Format HDD. There are 3 formats for choice: CD, DVD, and DL (Double Layer).

Now press **ESC** and ▼ to enter the following figure.

9-07. Image P: A
Image Format Info

Press **ENT** to see the following figure. This figure shows that the hard disk has been formatted as DVD.

If your hard disk is a new one and not formatted yet, LCD will show the message as follows after powering on.



Press **ENT** to confirm Yes, and you will see the following figure.

You can press ▼ to select CD or DL.

5.10 Edit Track (for CD only)

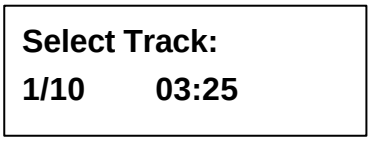
Function 10 Edit Track is exclusively designed for editing a collection of favorite songs from CDs. In other words, it can collect different tracks (songs) on a number of CDs and merge them into a single CD. This function includes 4 subfunctions: CD to CD, CD to HDD, Play Audio Track and Close Session. **Refer to page 24 for the figure of menu**.

Select function 10.

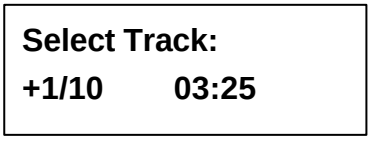
5.10.1 CD to CD

Now press **ENT**, and you will enter the following figure.Here the function CD to CD is to let you select a track or more from CD-ROM, and then copy into blank CD-R/RWs.

Now press **ENT**, and you will enter the following figure. Here 1/10 means the number one of the 10 tracks, and 03:25 means the length of track.

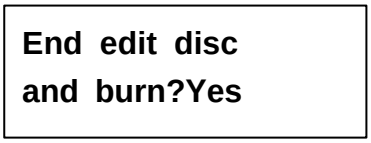


You can press ▼ to see the second track and so on. Suppose we decide to select the first track, then press **ENT**. A "+" will appear beside 1/10 as shown below. But pressing **ENT** again may cancel the selection.

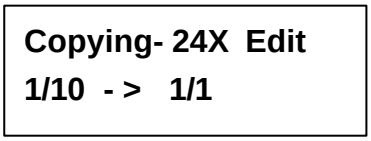


After selecting, please use ▲ to move to the "End" menu as shown below.

Press **ENT** to finish the CD editing, and use ▲ ▼ to confirm Yes or No.

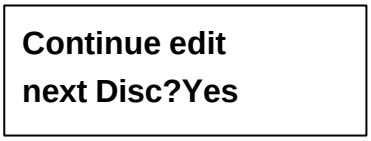


LCD will show the copying information as follows.

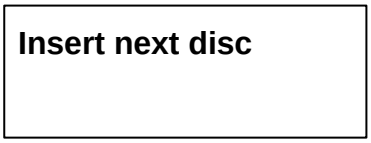


"1/1" means the first track of all tracks we have selected, and here we have just selected one track. When copying comes to an end, LCD will show the message as follows.

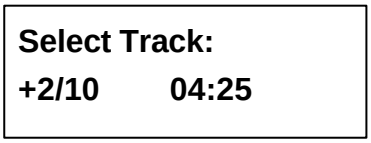
The system will ask if you want to keep editing. Please use ▲▼ to confirm Yes or No as shown below.



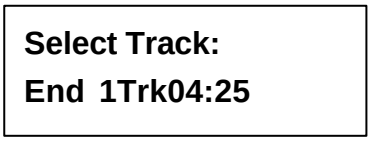
If you want to keep editing, the current source CD will eject auctomatically, and the system will ask you to insert another new CD as shown below.



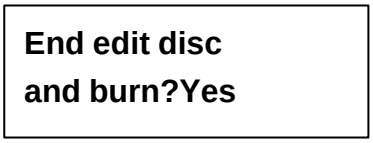
After inserting the new CD, press **ENT** to edit as before. Suppose we decide to select the second track, then press **ENT**. A "+" will appear beside 2/10 as shown below.



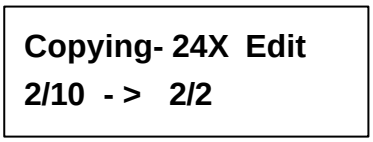
After selecting, please use ▲ to move to the "End" menu as shown below.



Press **ENT** to finish the CD editing, and use ▲ ▼ to confirm Yes or No.

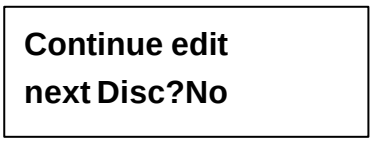


LCD will show the copying information as follows.

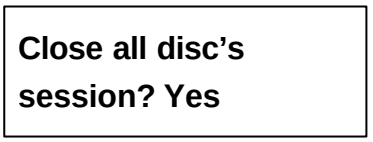


"2/2" means the second track of all tracks we have selected, and so far we have selected two tracks from two different CDs. When copying comes to an end, LCD will show the message as follows.

The system will ask if you want to keep editing. Suppose we don't like to continue, then press ▼ to confirm No.



Now press **ENT**. The system will ask if you want to close all CDs' sessions. Please use ▲ ▼ to confirm Yes or No as shown below.

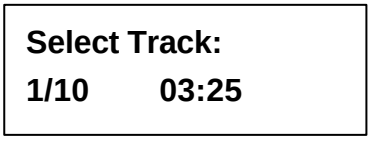


After deciding to close, LCD will show the message as follows. Note that you cannot listen to the music before closing sessions.

5.10.2 CD to HDD

After closing sessions, press **ESC** and ▼ to enter the following figure. Here the function CD to HDD is to let you select a track or more from CD-ROM, and then copy into a certain partition of HDD.

Now press **ENT**, and you will enter the following figure. Here 1/10 means the number one of the 10 tracks, and 03:25 means the playing time.



Suppose we decide to select the first track, then press **ENT**. A "+" will appear beside 1/10 as shown below. But pressing **ENT** again may cancel the selection.

```
Select Track:
+1/10       03:25
```

After selecting, please use ▲ to move to the "End" menu as shown below.

```
Select Track:
End  1Trk03:25
```

Press **ENT** to finish the CD editing, and use ▲ ▼ to confirm Yes or No.

```
End edit disc
and burn?Yes
```

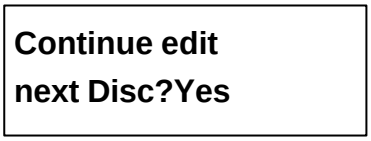
Then, the track as an image file will be loaded into HDD. LCD will show the loading information as follows.

```
Load- P0 -24X Edit
1/10  - >   1/1
```

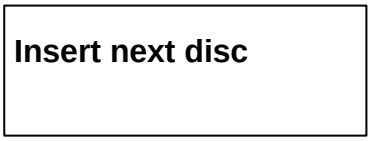
When loading comes to an end, LCD will show the message as follows.

```
Image load OK
```

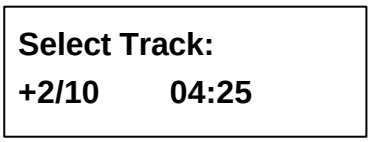
The system will ask if you want to keep editing. Please use ▲▼ to confirm Yes or No as shown below.



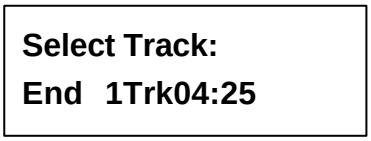
If you want to keep editing, the current source CD will eject auctomatically, and the system will ask you to insert another new CD as shown below.



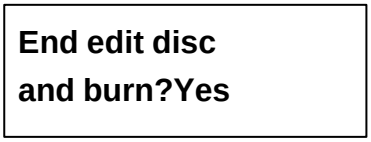
After inserting the new CD, press **ENT** to edit as before. Suppose we select the second track, then press **ENT**. A "+" will appear beside 2/10 as shown below.



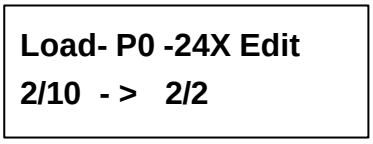
After selecting, please use ▲ to move to the "End" menu as shown below.



Press **ENT** to finish the CD editing, and use ▲▼ to confirm Yes or No.

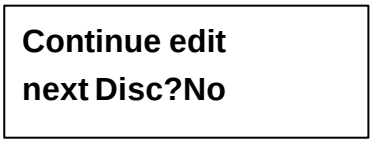


Then, the track as an image file will be loaded into HDD. LCD will show the loading information as follows.

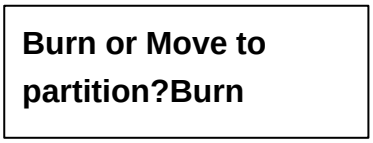


When loading comes to an end, LCD will show the message as follows.

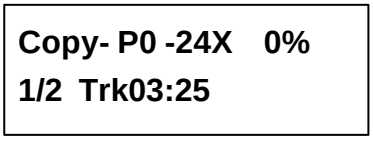
The system will ask if you want to keep editing. This time please use ▼ to confirm No as shown below.



Then, the system will ask if you want to burn from HDD into CD-R/RW or move into a partition. Please use ▲ to confirm Burn as shown below.

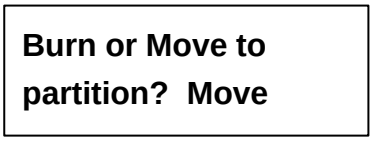


After pressing ▲ , LCD will show the copying information as follows.



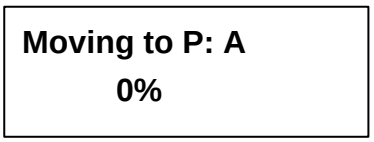
When burning finishes, LCD will show the results as follows.

Now press **ESC** to enter the following figure. And press ▼ to move the data from HDD template into a certain partition.

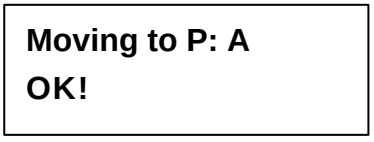


After pressing ▼, you need to select a partition into which the data will be moved. Suppose we select A as shown below.

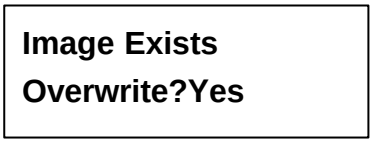
After pressing **ENT**, LCD will show the moving information as follows.



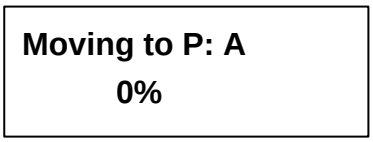
When moving finishes, LCD will show the results as follows.



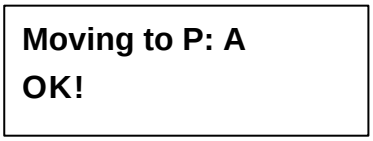
If the chosen partition has contained image data, the system will ask to overwrite or keep the data. Press ▲ to overwrite.



After pressing ▲ , LCD will show the moving information as follows.



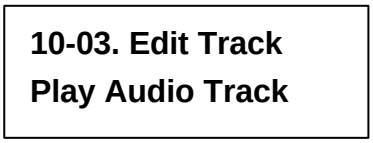
When moving finishes, LCD will show the results as follows.



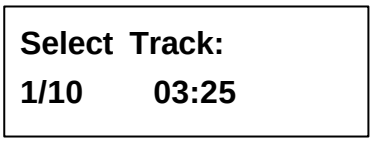
5.10.3 Play Audio Track

This function is to make the copy controller act as a music player. You can connect a headphone to the headphone jack on the source, and enjoy the music.

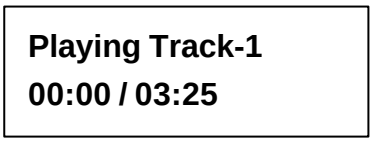
Now press **ESC** and ▼ to select the function.



Use ▲ ▼ to select the track you want to play.



After selecting and pressing **ENT**, LCD will show the playing information below.

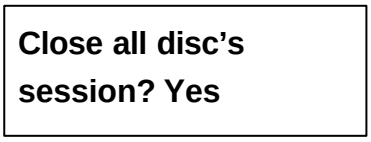


5.10.4 Close Session

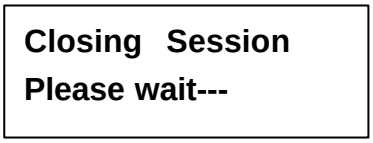
This function is to close CDs and let no data written into. After closing, you can put the CDs on any normal player and listen.

Now press **ESC** and ▼ to select the function.

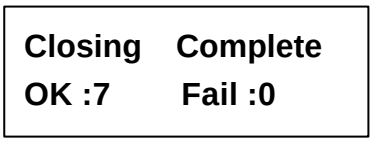
After pressing **ENT**, the system will ask if you are sure to close.



After pressing **ENT**, LCD will show the message as follows.



When closing finishes, LCD will show the results as follows.



5.11 Setup

Function 11 Setup lets you change the default settings. Once you change a setting, remember to press **ENT** to save it. However, it is suggested to use the defaults for the optimal operation. This function includes 21 subfunctions: Language, CD Burn Speed, DVD Burn Speed, Read Speed, Auto Start Drive, Startup Menu, Auto Verify, Auto Compare, Auto Prescan, Eject Disc, Burn On The Fly, Burn Mode, Display Time, Button Sound, Device Info, System Info, Quick Erase, Full Erase, Auto Close Tray, Quick Compare, and Audio Burn Speed. **Refer to page 25 for the figure of menu**.

Select function 11.

5.11.1 Language

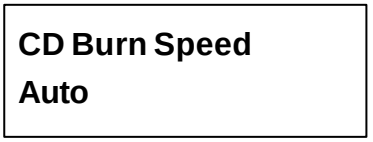
Now press **ENT**, and you will enter the following figure. The function Language lets you select a language in which messages can be shown on LCD.

Press **ENT** to enter the following figure. The default is English. Spanish, Japanese, Traditional Chinese and Simplified Chinese are made to order.

5.11.2 CD Burn Speed

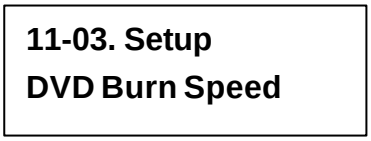
Now press **ESC** and ▼ to enter the following figure. This function lets you control the burning speed of CD writers.

Press **ENT** to enter the following figure. The default is auto.

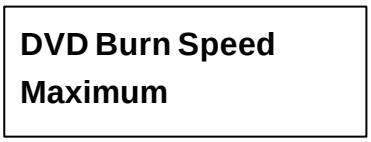


5.11.3 DVD Burn Speed

Now press **ESC** and ▼ to enter the following figure. The function DVD Burn Speed lets you control the burning speed of DVD writers.



Press **ENT** to enter the following figure. The default is maximum.

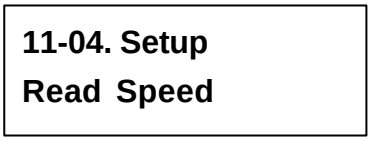


The following table is for reference.

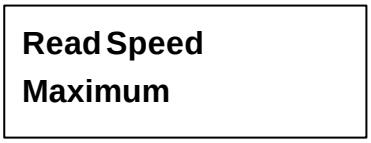
Model \ Speed	8X	12X	16X
ARS-2030T	1-to-3	1-to-3	1-to-3
ARS-2033	1-to-7	1-to-3	1-to-3
ARS-2033P	1-to-7	1-to-7	1-to-5
ARS-2033S	1-to-7	1-to-7	1-to-7
ARS-2039	1-to-9	1-to-6	1-to-4

5.11.4 Read Speed

Now press **ESC** and ▼ to enter the following figure. The function Read Speed lets you control the reading speed of target CDs.



Press **ENT** to enter the following figure. The default is maximum, but there are still other choices: 32X, 16X and 8X.



5.11.5 Auto Start Drive

Now press **ESC** and ▼ to enter the following figure. Auto Start Drive is to copy or test automatically once you put blank DVDs into the writers.

Press **ENT** to enter the following figure. The default is Off. Press ▼ to select 1 (one blank DVD).

5.11.6 Startup Menu

Now press **ESC** and ▼ to enter the following figure. Startup Menu lets you select any one of the functions except Adv Setup as the first item appearing on the menu whenever you turn on the copy controller.

Press **ENT** to enter the following figure. The default is Copy. You can certainly select any other function as the first item, but remember to press **ENT** to confirm.

5.11.7 Auto Verify

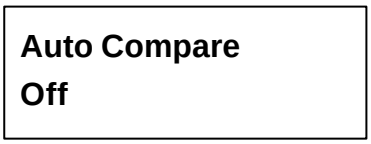
Now press **ESC** and ▼ to enter the following figure. Auto Verify is to verify automatically if the target DVDs can be read after copying.

Press **ENT** to enter the following figure. The default is Off. Press ▼ to select On.

5.11.8 Auto Compare

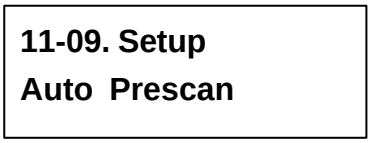
Now press **ESC** and ▼ to enter the following figure. Auto Compare is to compare automatically the source DVD and the target DVDs after copying.

Press **ENT** to enter the following figure. The default is Off. Press ▼ to select On.

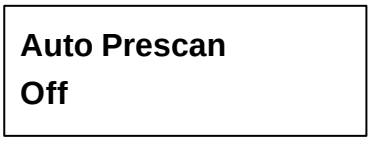


5.11.9 Auto Prescan

Now press **ESC** and ▼ to enter the following figure. Auto Prescan is to scan automatically if the source DVD can be read correctly, and by the way to test the reading speed.



Press **ENT** to enter the following figure. The default is Off. Press ▼ to select On.



5.11.10 Eject Disc

Now press **ESC** and ▼ to enter the following figure. Eject Disc provides three choices. They are Eject Good Only, Eject All Disc, and Do Not Eject. Eject Good Only means that the DVDs will eject automatically only when they are copied successfully. Eject All Disc means that the DVDs will eject automatically whether they are copied successfully or not. Do Not Eject means that you need to eject the DVDs manually when copying finishes.

Press **ENT** to enter the following figure. The default is Eject Good Only. Press ▼ to select Eject All Disc or Do Not Eject.

5.11.11 Burn On The Fly

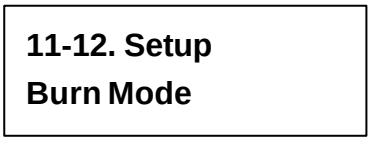
Now press **ESC** and ▼ to enter the following figure. Burn On The Fly lets you control the copying methods. When the setting is On, the data will be copied directly from the source DVD to the target DVDs. When the setting is Off, the data will be loaded into a partition of HDD first, and hence copying will be done.

Press **ENT** to enter the following figure. The default is On. Press ▼ to select Off.

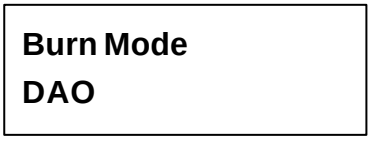
If your copy smart plus doesn't connect with a hard disk, LCD will show the message as follows.

5.11.12 Burn Mode

Now press **ESC** to return to Function 11, and then select part 12 Burn Mode as the following figure shows. Burn Mode lets you control the burning modes. There are two modes: DAO (Disc At Once) and TAO (Track At Once). They only supports CD. If the DVD writer doesn't support the mode you have selected, the copy controller will automatically switch to another mode.

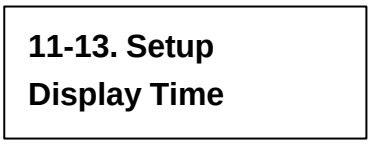


Press **ENT** to enter the next figure. The default is DAO. Press ▼ to select TAO.

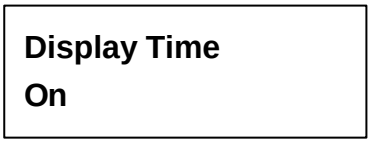


5.11.13 Display Time

Now press **ESC** and ▼ to enter the following figure. Display Time is to show the copying time.



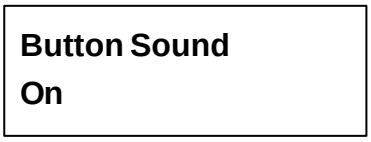
Press **ENT** to enter the following figure. The default is On. Press ▼ to select Off.



5.11.14 Button Sound

Now press **ESC** and ▼ to enter the following figure. Button Sound lets you control the sound of a button when you press it.

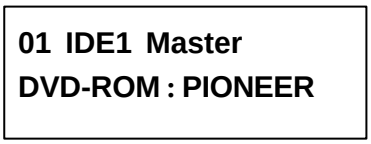
Press **ENT** to enter the next figure. The default is On. Press ▼ to select Off.



5.11.15 Device Info

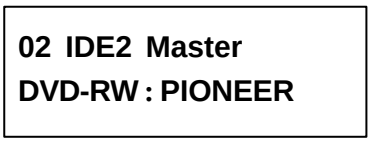
Now press **ESC** and ▼ to enter the following figure. Device Info shows the information of the DVD-ROM and any of the DVD writers you have installed.

Press **ENT** to enter the next figure.



Press **ENT** to enter the next figure.

Press ▼ twice to enter the next figure.



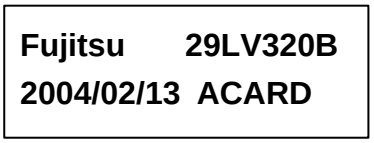
Press **ENT** to enter the next figure.

5.11.16 System Info

Now press **ESC** and ▼ to enter the following figure. System Info shows the information of the system.

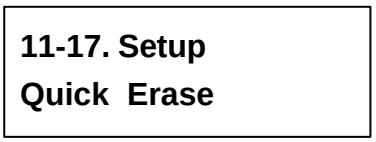
Press **ENT** to enter the next figure.

Press **ENT** to enter the next figure.

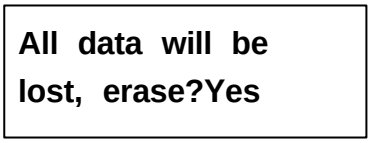


5.11.17 Quick Erase

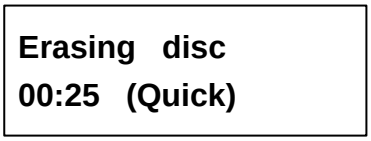
Now press **ESC** and ▼ to enter the following figure. Quick Erase is to erase the data on the DVD rewriteable discs quickly.



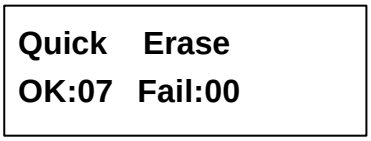
Press **ENT** to enter the next figure. Use ▲▼ to confirm Yes or No.



After confirming Yes and pressing **ENT**, LCD will show the message as follows.



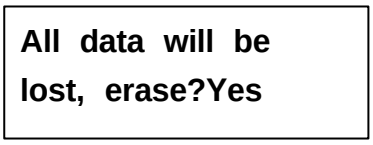
When erasing finishes, LCD will show the results as follows.



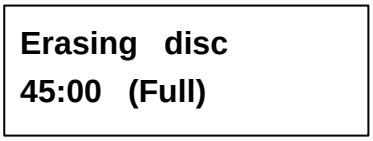
5.11.18 Full Erase

Now press **ESC** and ▼ to enter the following figure. Full Erase is to erase the data on the DVD rewriteable discs completely. Compared with Quick Erase, Full Erase takes longer time to do the job.

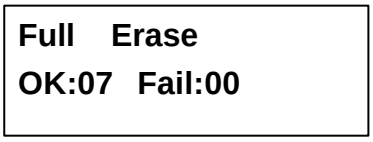
Press **ENT** to enter the next figure. Use ▲▼ to confirm Yes or No.



After confirming Yes and pressing **ENT**, LCD will show the message as follows.

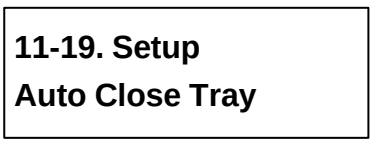


When erasing finishes, LCD will show the results as follows.



5.11.19 Auto Close Tray

Now press **ESC** and ▼ to enter the following figure. Auto Close Tray is to close the writer's tray automatically. It is related to function 11.5 Auto Start Drive. If you haven't set any writer to copy in function 11.5, this function will be invalid.



Press **ENT** to see the following figure.

Here 5 means that it takes 5 seconds to close the writer's tray automatically after copying finishes and the tray is ejected. Besides 5 seconds, there are 10, 15, 20, 25, 30, 35, 40, 45, and 50 seconds for choice. If you have set one or all seven writers in function 11.5, and choose 10 seconds here, then one writer's tray or all seven writers' trays will be closed in 10 seconds after copying finishes.

5.11.20 Quick Compare

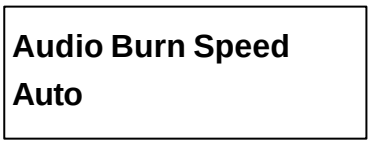
Now press **ESC** and ▼ to enter the following figure. Quick Compare is related to function 5 Compare. It lets you set a certain byte. When the error of a target DVD is beyond the set byte, the comparison between the source DVD and the target DVD will stop. Yet the comparison of the other 6 target DVDs will continue.

Press **ENT** to see the following figure. The default is Off, but you can press ▼ to choose a certain byte like 1 Byte, 1 KB, 10 KB, 1 MB, 10 MB, etc.

5.11.21 Audio Burn Speed

Now press **ESC** and ▼ to enter the following figure. Audio Burn Speed lets you control the burning speed of audio CDs.

Press **ENT** to see the following figure. The default is auto, but there are maximum, 52X, 48X, 40X, 32X, 24X, 20X, etc. for choice.



5.12 Adv Setup

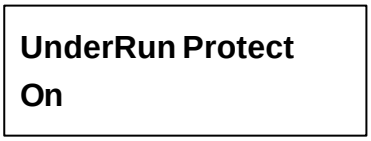
Function 12 Adv Setup lets you change the system configuration. This function includes 16 subfunctions: UnderRun Protect, Overburn, Read Error Skip, Format HDD, Verify HDD, Burn-in, Update Firmware, Compare Firmware, H/W Diagnostic, Load Default, CD+G, ISRC & MCN, Switch USB Mode, CD-TEXT, MultiSession DVD, and Update Drive F/W. **Refer to page 26 for the figure of menu**.

Now press **ESC** to return to Function 11. Then, **press ESC for 2 seconds** to enter Function 12-01 as the following figure shows.

5.12.1 UnderRun Protect

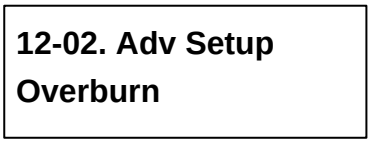
Now if you press **ESC**, you can enter Function 12 as the following figure shows.

UnderRun Protect lets you control On and Off of Buffer Under Run Protection. Press **ENT** to enter the following figure. The default is On. Press ▼ to select Off.

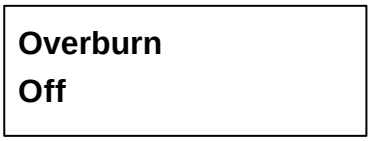


5.12.2 Overburn

Now press **ESC** and ▼ to enter the following figure. Overburn lets you decide whether to copy beyond the limit of the CD or not.



Press **ENT** to enter the following figure. The default is Off. Press ▼ to select On. Overburn may cause a DVD writer to be damaged and data incomplete.



5.12.3 Read Error Skip

Now press **ESC** and ▼ to enter the following figure. Read Error Skip is to ignore any error that occurs during copying. Under normal circumstances, when an error occurs during copying, a message will appear on LCD. Yet, you can use Read Error Skip to copy some defective DVDs.

Press **ENT** to enter the following figure. The default is Off. Press ▼ to select On.

5.12.4 Format HDD

Now press **ESC** and ▼ to enter the following figure. Format HDD is to partition the hard disk. But before formatting, all data on the hard disk will be deleted.

Press **ENT** to get the next figure. In DVD a partition occupies 5GB, in CD 1GB and in DL 10GB. If you format once more, the old data will be lost.

If your copy controller doesn't connect with a hard disk, LCD will show the message as follows.

5.12.5 Verify HDD

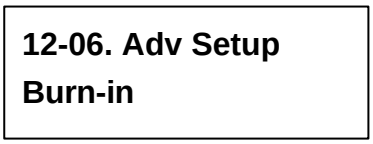
Now press **ESC** to return to Function 12, and then select part 5 Verify HDD as the following figure shows. Verify HDD is to verify if the hard disk or any of its partitions can work well.

Press **ENT** to enter the next figure. Use ▲ ▼ to confirm Disk or Parti.

Press **ENT** to verify. After verification LCD will show the results as follows.

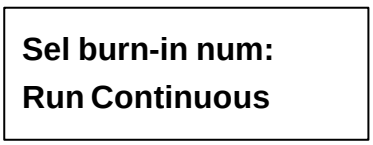
5.12.6 Burn-in

Now press **ESC** and ▼ to enter the following figure. Burn-in is to simulate the copying progress many times. The time can be from 1 to 1000. After each cycle of simulation, the DVDs on the DVD writers will eject automatically and recede for the next bout of simulation.

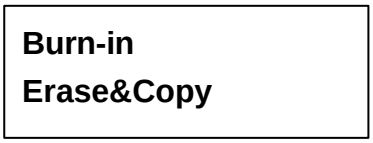


Press **ENT** to enter the next figure. Test is simply a simulation.

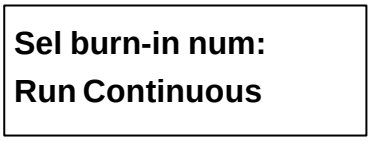
Press **ENT** and use ▲▼ to select the time of simulation such as 1, 2, 3...1000 or Run Continuous. The figure below shows Run Continuous.



Press **ESC**, **ENT**, ▼ to select Erase & Copy as the following figure shows. Erase & Copy is to erase and write repeatedly. It is only for DVD rewriteable discs.



Press **ENT** and use ▲ ▼ to select the time of simulation such as 1, 2, 3...1000 or Run Continuous. The figure below shows Run Continuous.

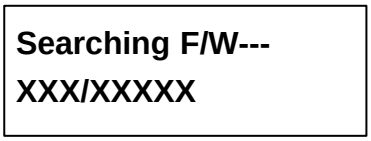


5.12.7 Update Firmware

Now press **ESC** and ▼ to enter the following figure. Update Firmware is to update firmware to the latest version. But you should get the version first.

You can get the newest firmware version from ACARD by e-mail, or download it directly from the web site: **http://www.acard.com** Then, unzip the file of .zip and copy it into a CD-RW. If the file is .bin, you don't need to unzip.

After placing the DVD into the DVD-ROM , press **ENT**. The system will begin searching the new firmware and show the message on LCD as follows after it finds the new firmware. Then press **ENT** to update.

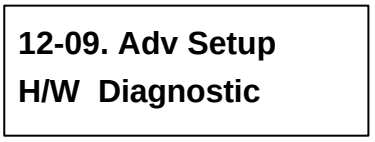


5.12.8 Compare Firmware

Now press **ESC** and ▼ to enter the following figure. Compare Firmware is to compare the current firmware version and the newly downloaded version. It can prove if the downloaded version is the newest one.

5.12.9 H/W Diagnostic

Press **ESC** and ▼ to enter the next figure. H/W Diagnostic is to test the system.

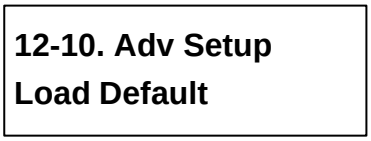


Press **ENT** to enter the next figure, and begin the LCD test. After that, the system will do the button test, self-test of SDRAM, the hardware connection test and flash test. All test results will be shown on LCD. It is the easiest way to know if the system can work well.

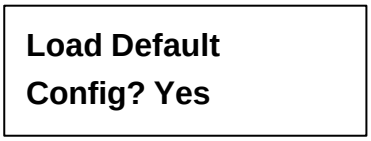
When all tests finishes, LCD will show the message as follows.

5.12.10 Load Default

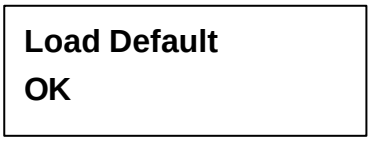
Now press **ESC** and ▼ to enter the next figure. Load Default is to make all changed settings return to defaults.



Press **ENT** to enter the next figure. Use ▲ ▼ to confirm Yes or No.

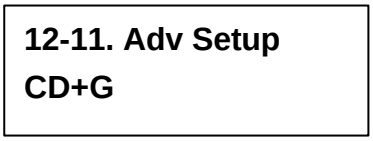


When default loading finishes, LCD will show the results as follows.



5.12.11 CD+G

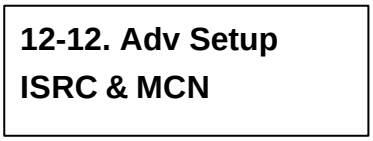
Now press **ESC** and ▼ to enter the following figure. CD+G is a kind of special copying format. This function supports this special format.



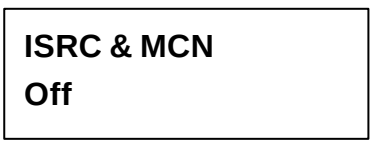
Press **ENT** to enter the next figure. The default is Off. Press ▼ to select On.

5.12.12 ISRC & MCN

Now press **ESC** and ▼ to enter the following figure. ISRC and MCN are special copying formats. This function supports them.



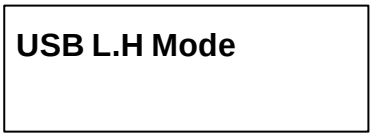
Press **ENT** to enter the next figure. The default is Off. Press ▼ to select On.



5.12.13 Switch USB Mode (optional)

Now press **ESC** and ▼ to enter the next figure. Switch USB Mode lets you switch to the USB mode if your copy controller has connected with a PC.

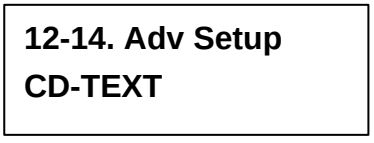
Press **ENT** to enter the following figure. "LH" means link host.



Now press ▲ to enter the following figure. Pressing **ENT** can let you return to standalone mode. "SA" means standalone.

5.12.14 CD-TEXT

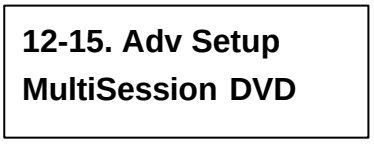
Now press **ESC** and ▼ to enter the following figure. CD-TEXT is a kind of special copying format. This function supports this special format.



Press **ENT** to enter the next figure. The default is Off. Press ▼ to select On.

5.12.15 MultiSession DVD

Now press **ESC** and ▼ to enter the following figure. Multisession DVD is particularly designed for a DVD with multiple sessions.



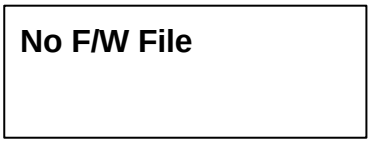
Press **ENT** to enter the next figure. The default is On.

Note that you should put the source DVD with multiple sessions into a DVD writer, not DVD-ROM.

5.12.16 Update Drive F/W

Now press **ESC** and ▼ to enter the following figure. **Only when you have installed some types of CD\DVD drives produced by ASUS or Plextor can this figure appear**. This function lets you udpate the firmware of some ASUS or Plextor CD\DVD drives. For the detailed types, visit the Web site:www.acard.com.

Press **ENT** to enter the next figure. No F/W File means that there is no file of firmware on the source CD. So, in the beginning you have to download the firmware of a certain type of CD\DVD drive from the Web site of ASUS or Plextor. Then record the firmware into a CD-RW.



Chapter 6 Troubleshooting

6.1 About LCD

After powering on if there is no LCD, check if the connection of power cord is firm and the environment of power outlet is normal.

6.2 About Error Messages

During Copy, Test, Compare and Verify, etc. if you press **ESC** to abort, an error message will appear on LCD. Abortion may cause the copy controller to hang up, therefore you have to power on again.

If reading fails, an error message will appear on LCD. Get a new source DVD to try again.

If the copy controller hasn't detected any device after powering on, an error message will appear on LCD.

6.3 About DVD-ROM/DVD Writers

If a DVD-ROM or a DVD writer cannot read, confirm the format of the source DVD and check if it is damaged.

Use any DVD writer to read the source DVD. If it works, the DVD-ROM is probably defective or not compatible with the source DVD.

6.4 About Buttons

If you press any one of the four buttons on the panel, but there is no response, it is perhaps that the button cannot function well. Inspect the jumper setting.

6.5 About DVD Writer Not Readable

After copying if the DVD writer is not readable, use Compare to examine, or get another DVD-ROM to test.

6.6 About High Failure Rate

If the failure rate of copying is high, do the following things to improve.

- Lower the speed of DVD writer.
- Inspect if the blank disc's quality is good.
- Update the firmware.
- Inspect the DVD writer's maximum writing speed. If the speed is over 8X, copy the data to a hard disk first, and then transmit to DVD.

6.7 About Firmware Update

If you cannot update the firmware, please inspect the firmware. Perhaps you have downloaded a wrong file.

Failure in firmware update may cause the copy controller to fail in booting. Under the circumstances, return the control board to distributor for repair.

6.8 About Function 12 and Cancellation

If you want to execute function 12 Advanced Setup, you can press **ESC** for 2 seconds. And during operation if you want to cancel a function like Copy, Test, Verify and so on, you can press **ESC** for 2 seconds, too.

Appendix A About AEC-4420P/PB

1 Overview

ACARD AEC-4420P and 4420PB are converters that turn internal IDE interfaces into external USB ones. They are chiefly used together with ACARD Copy Controller series. AEC-4420P can easily connect a CD\DVD writer or a hard drive that is connected to a standalone copy controller to PC through the USB interface, but AEC-4420PB can only connect a CD\DVD writer to PC. Then, you can control the CD\DVD writer or the hard drive through PC.

2 Features

- Turns IDE interface to USB one.
- Has a user-friendly interface, easy for installation and operation.
- Has a switch between standalone and link host.
- Compatible with ACARD Ha! DVD Burner.
- Can be a bridge between PC and a writer connected to a copy controller for external recording.
- Manages image files in the hard drive connected to a copy controller through ACARD Image Manager software.
- Optional for a copy controller to extend functions.
- Supports Windows 98/ME/NT/2000/XP/Server 2003.

3 Specifications

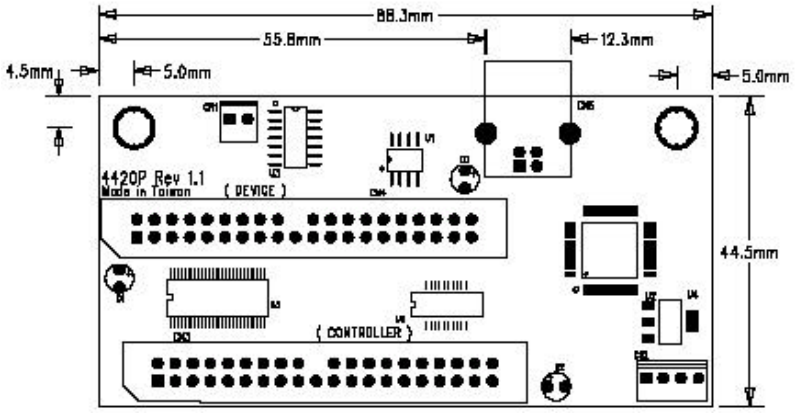
- Has a USB controller and an IDE interface
- Supports Ultra DMA 33/66/100/133 IDE interface
- The data transfer rate is up to 480Mb/Sec (60MB/Sec) with USB 2.0
- Copy controller can be standalone or link host via the digital switch
- Signal control switch through external control signals

- Can be used together with a copy controller (ACARD or other brands)
- Power requirement: 5V
- Size: 4420P – 8.8 cm (L) 4.5 cm (W) 1.5 cm (H)
  4420PB – 12.2 cm (L) 3.5 cm (W) 2.5 cm (H)

4 Layout

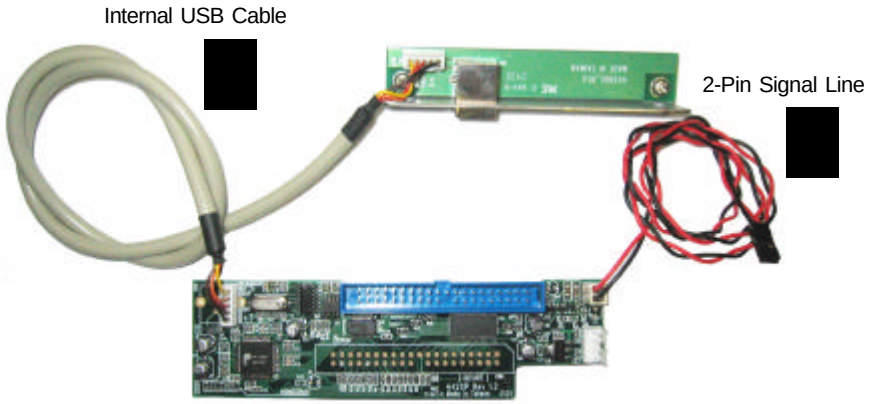
(a) AEC-4420P

The actual product of 4420P

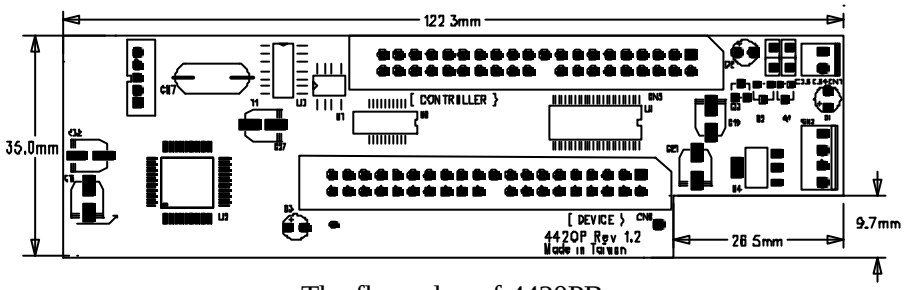


The floor plan of 4420P

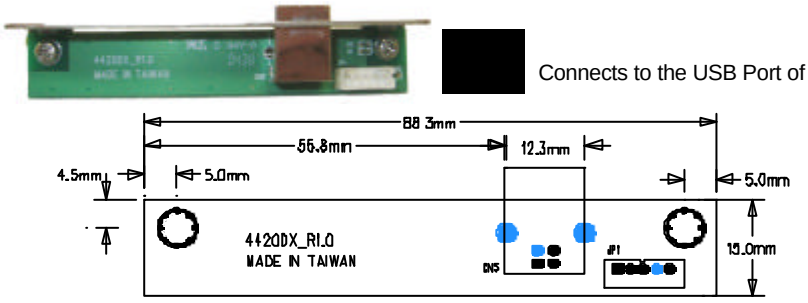
(b) AEC-4420PB



The actual product of 4420PB

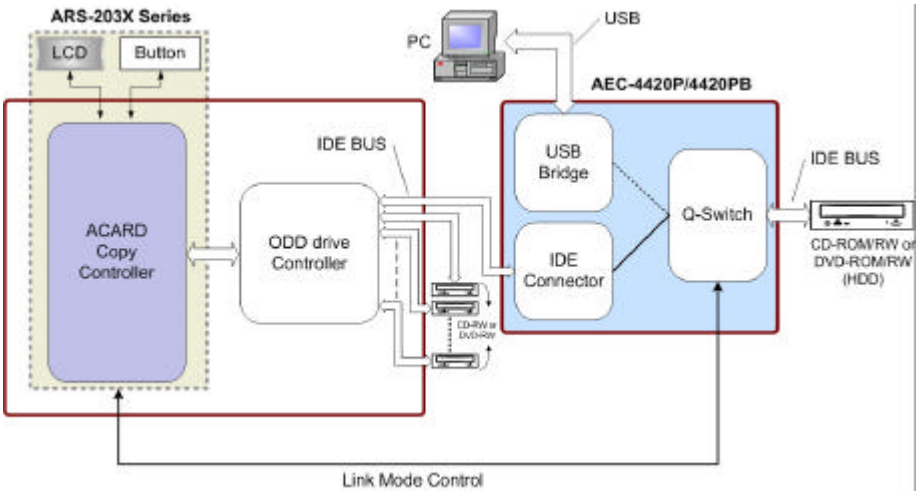


The floor plan of 4420PB



The USB extend board and floor plan of 4420DX

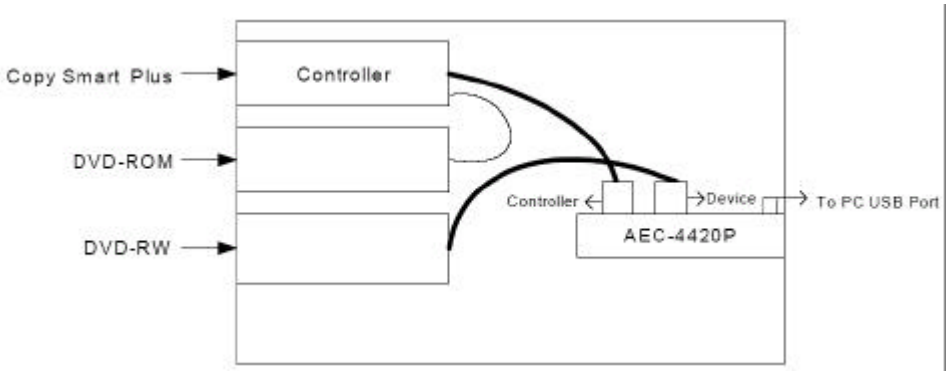
5 Function



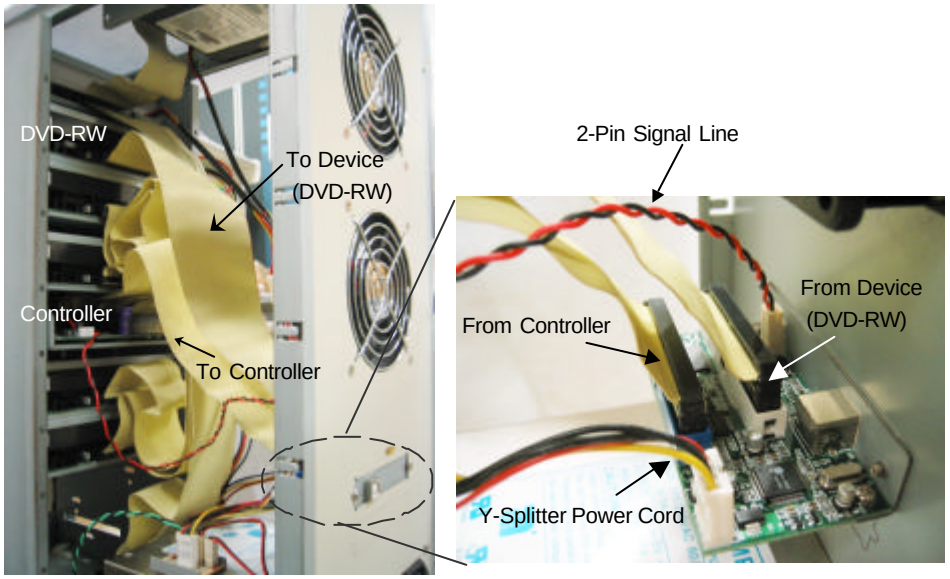
As indicated above, AEC-4420P/4420PB is connected to an ACARD copy controller via link mode control. Generally, when the copy controller is standalone, Q-Switch is connected to IDE connector. But when the copy controller is to be link host, Q-Switch will be switched to USB Bridge through link mode control, and thus 4420P/4420PB will be connected to PC. In link host mode, the device that PC controls is either a CD/DVD writer or a hard drive connected to the IDE bus on Q-Switch.

6 Connect 4420P to Writer

The picture below shows the connection of AEC-4420P with a writer. The connected writer can be used as an external writer when the copy controller is in link host mode. See page 20 to 22 for the connection of the 2-pin signal line.



The actual connection



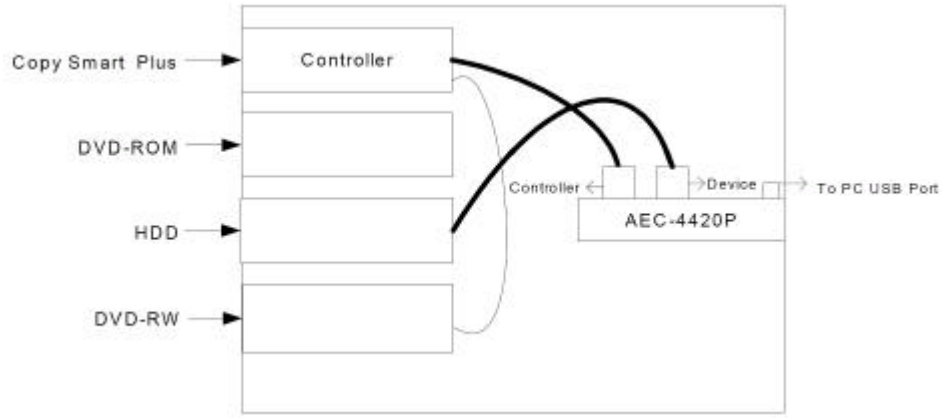
After connection and linking to the computer, you can press ESC on the copy controller's panel for 2 seconds, enter Function 12. Adv Setup, and select Switch USB Mode. Press ENT to see **"USB L.H Mode"** display on the LCD. You can also click "My Computer" to check if there is a new DVD writer appearing. Now you may use some recording software like ACARD Ha! DVD Burner to copy.

If you want to stop linking host, you can press ▲ on the copy controller's panel and see **"Back to SA-Mode? Yes"** display on the LCD. Press ENT to return to standalone mode.

Visit ACARD's Web site for the compatibility list of writers.

7 Connect 4420P to HDD

The picture below shows the connection of 4420P with a hard drive. It is similar to the connection of 4420P with a writer. When the copy controller is in link host mode, the data stored in PC can be transferred to the hard drive on the copy controller in the form of image files. After transfer, the copy controller can be switched back to standalone for data recording. See page 20 to 22 for the connection of the 2-pin signal line.



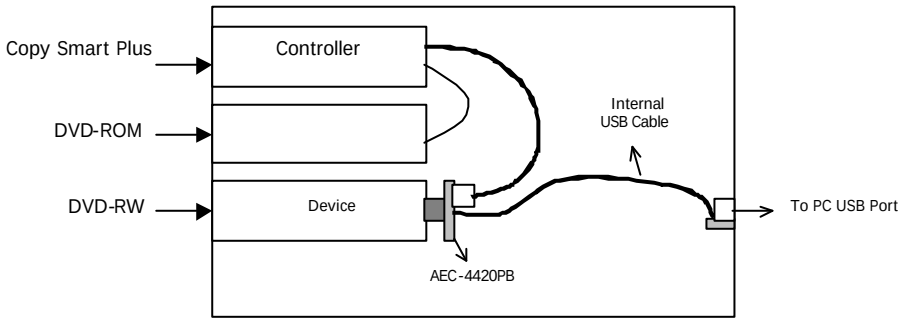
After connection and linking to the computer, once the copy controller detects the hard drive, it will ask if you want to format. Then, you can press ESC on the copy controller's panel for 2 seconds, enter Function 12. Adv Setup, and select Switch USB Mode. Press ENT to see **"USB L.H Mode"** display on the LCD. You can also click "My Computer" to check if there is a hard drive appearing.

Connection with a hard drive means transmitting those image files stored in the system's hard drive to the newly connected hard drive via the software Image Manager, and then copying the files to the target writer. See Part 10.

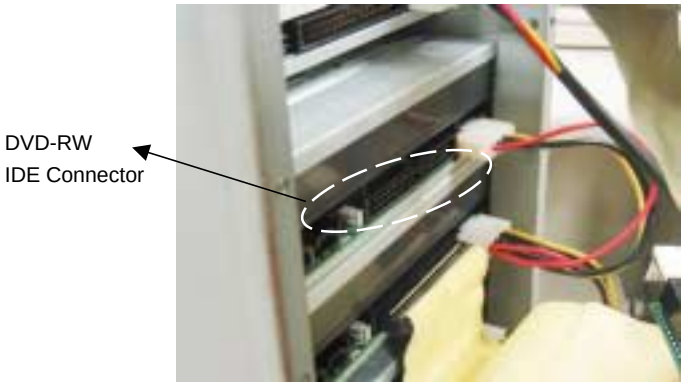
Visit ACARD's Web site for the compatibility list of hard drives.

8 Connect 4420PB to Writer

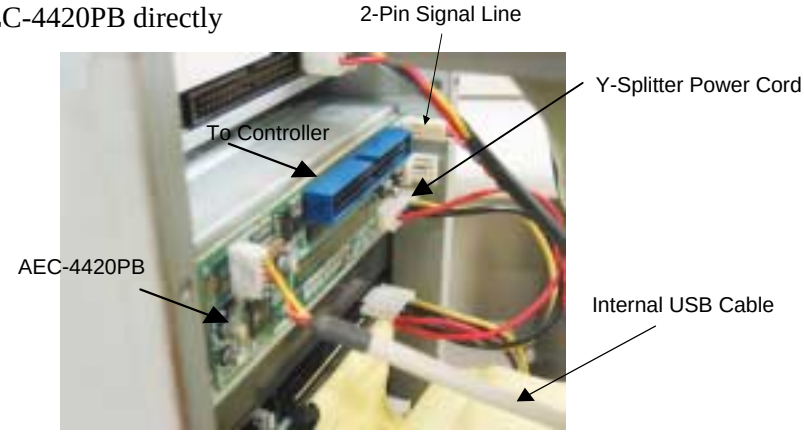
The picture below shows the connection of 4420PB with a writer. 4420PB cannot connect with a hard drive. Its function is the same as that of 4420P. See page 20 to 22 for the connection of the 2-pin signal line.



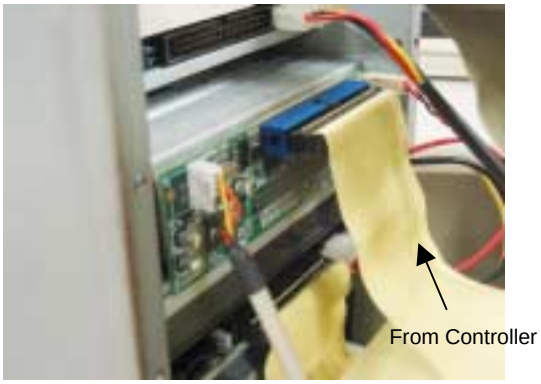
1. Find the IDE connector



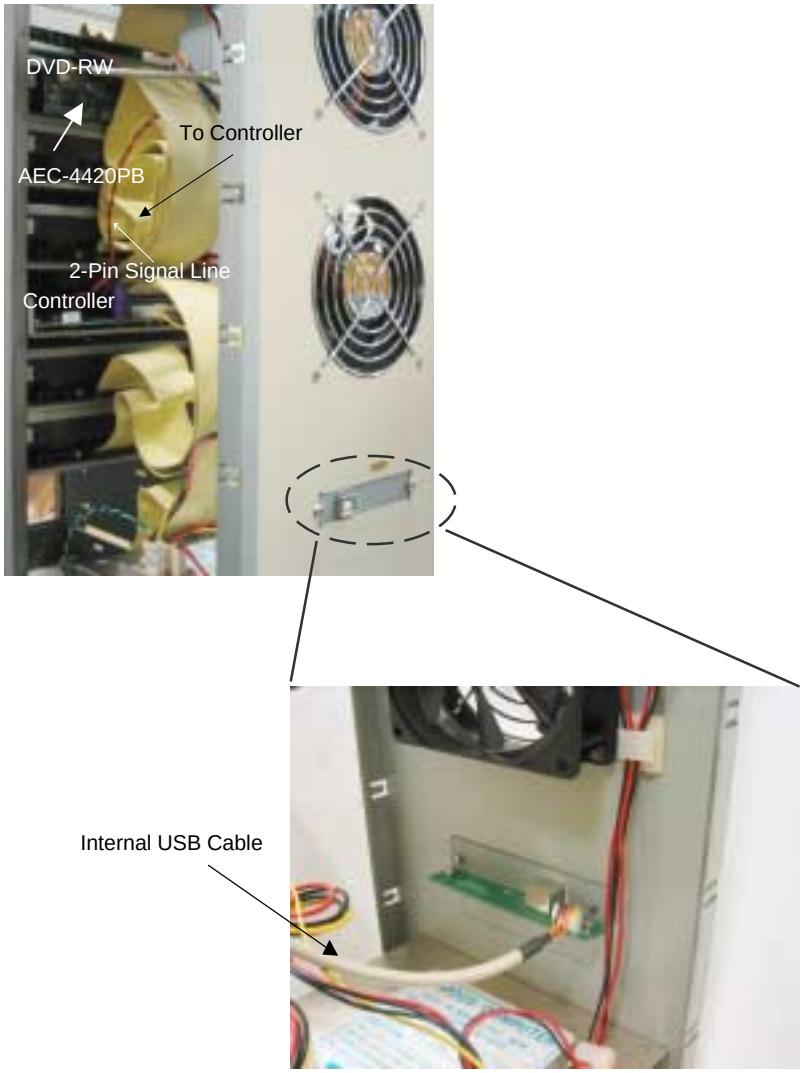
2. Inset AEC-4420PB directly



3. Connect the IDE cable that links with 4420PB



The actual connection



9 Connect to the Signal Line

See page 20 to 22 for the connection of the 2-pin signal line.

10 Image Manager

Install the software Image Manager that is in the support CD, and then follow the steps below to use it. Image Manager helps you manage those image files transmitted from PC to the hard drive connected with AEC-4420P.

(1) Click the icon of the last host card to see the newly connected hard drive. The last host card has no title, but it represents AEC-4420P.

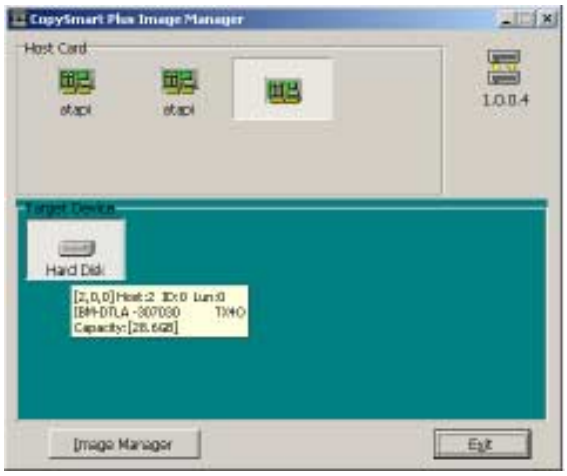


Figure 1

(2) On Figure 1 move the cursor to the hard drive to see its capacity and so on. Now click [Image Manager] to enter Figure 2.

Figure 2

(3) On Figure 2 choose a partition of the hard drive like B where you want to put the image file transmitted from the system's hard drive. And also choose the form of the file such as .CPM, .ISO or .DVM.

(4) Now suppose you want to choose an image file of 1.ISO and click [Open].

Figure 3

(5) After opening the file, you will enter Figure 4 and see the information.

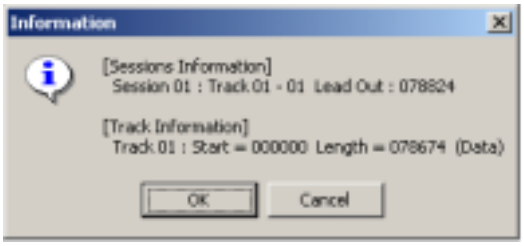

Information
[Sessions Information]
Session 01 : Track 01 - 01 Lead Out : 078824
[Track Information]
Track 01 : Start = 000000 Length = 078674 (Data)
OK
Cancel

Figure 4

(6) Click [OK] to transmit the image file as Figure 5 shows.

Figure 5

(7) After transmission, if it is successful, there will be a message showing so.

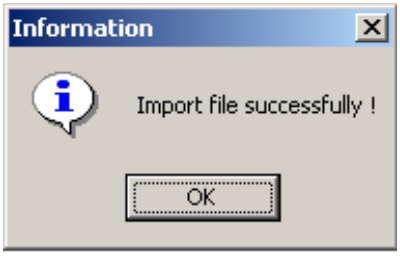


Figure 6

(8) You can see the newly transmitted file appear in partition B as Figure 7 shows.

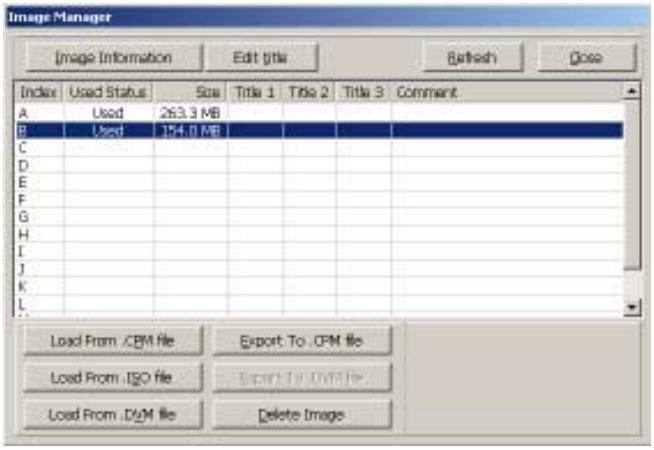


Figure 7

(9) On Figure 7 click [Image Information] to see the file's information as Figure 8 shows.

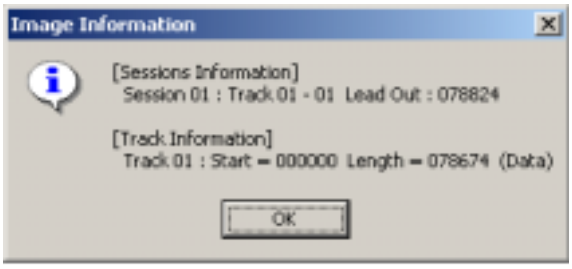


Image Information
[Sessions Information]
Session 01 : Track 01 - 01 Lead Out : 078824
[Track Information]
Track 01 : Start = 000000 Length = 078674 (Data)
OK

Figure 8

(10) On Figure 8 click [OK] to return to Figure 7. Then click [Edit title] to edit the title of the file. You can edit three titles at most, and decide whether to give a comment or not.

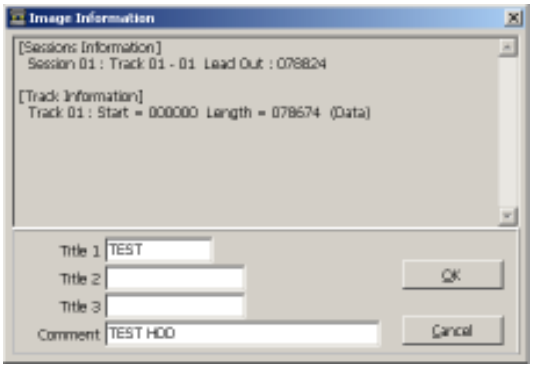


Figure 9

(11) After editing and clicking [OK], you will enter Figure 10.

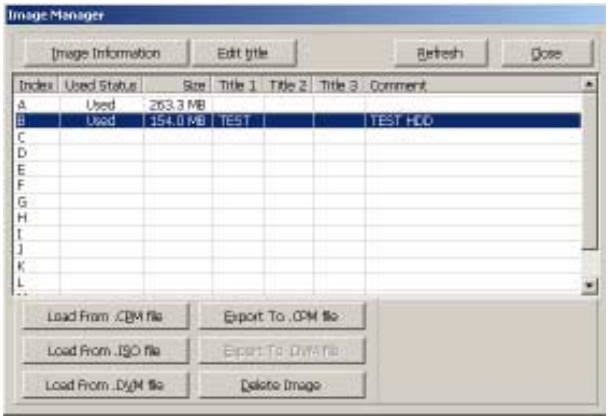


Figure 10

(12) Close the small green icon of Image Manager at the right down corner by right-clicking. The purpose is letting PC detect the connected hard drive again when you want to transmit an image file next time.

Now press ▲ on the copy controller's panel and see **"Back to SA-Mode? Yes"** display on the LCD. Press ENT to return to standalone mode. After turning on the copy controller again, choose 8. Select Source, and then HDD.

Appendix B LCD Messages

1. Normal Conditions:

All data will be lost, erase?.....All data on the disc will be lost. Confirm the erasing of data.

Analyzing.....Analyze the source disc.

Audio Disc!!! Can't compare!..... The system cannot compare the audio discs.

Cannot read TOC..... The system cannot read the contents of disc.

Check Target Please Wait .....The system is checking the target device.

Detect Drives.....Detect what drives are connected with the system.

DVD-RW does not Support the Func..... DVD-RW doesn't support this function.

Erase Finished..... The erasing of data comes to an end.

Erasing disc.....The system is erasing the data on the disc.

Fail to get Drive Info!..... The drive information cannot be obtained.

Fail to get Src Disc Info!..... The information of source disc cannot be obtained.

Hold ESC to exit..... Press **ESC** for a second to terminate the test.

Identical..... The comparison results are the same.

Initialize SDRAM.....Initialize the memory of the system.

Load Default Config?.....Do you want to load the default settings?

No Erasable Disc in DVD-RW!!.....The disc on the DVD-RW device is not rewritable.

Preparing..... The system is preparing to record.

Press a Key to Eject Fail Disc.....Press any key to eject the failed disc after copying.

Press a Key to Eject Good Disc... Press any ket to eject the good disc after copying.

Read disc error .....During comparison the disc cannot be read.

Save new config Fail!..... The new setting of configuration cannot be saved.

Source Disc Empty!!!..... The source disc doesn't contain any data.

Source Disc Not Ready..... Source disc is not ready to be read.

Source Drive Not Ready.....Source drive is not ready to read.

Src&Tgt can't in the same channel.....During comparison the source and target discs cannot be in the same channel.

Target Disc Not Empty!!!..... The target disc still has data.

Target Disc Not Ready..... Target disc is not ready to be written into.

Target Drive Not Ready.....Target drive is not ready to write.

Target overflow..... The target disc hasn't enough capacity to store new data.

TOC not match..... The comparison results are not the same.

User Abort!.....Cancel the job during operation.

2. Connecting with a HDD:

All data will be lost, format?.....All data on the hard disk will be lost. Confirm the formatting of hard disk.

Delete Image in Partition xx?....Confirm the deleting of data image in partition xx.

Format HDD?..... Ask if you want to format the hard disk.

Format HDD OK! .....The Formatting of hard disk has been completed.

HDD not Format!.....The hard disk hasn't been formatted yet.

HDD too small ..... The capacity of hard disk is too small.

HDD too small to handle image!.....The hard disk hasn't enough capacity to store the data image (at least 5Gbytes).

Image Exists Overwrite?.....There is a data image in the current partition. Confirm the overwriting of data.

Image load Fail.....The image isn't successfully loaded from DVD to the hard disk.

Image load OK..... The image is successfully loaded from DVD to the hard disk.

No Image in Partition xx.....There is no data image in partition xx.

No Valid HDD!..... The system cannot find a hard disk.

Partition Damage.....The partition is damaged.

Select HD First!..... Select a formatted hard disk at first.

Verify Disk or Partition?..... Do you want to verify the hard disk or just a partition?

Verify Hard Disk Fail!..... The hard disk is not verified successfully.

Verify Hard Disk OK!..... The hard disk is verified successfully.
Verify Partition Header!..... Verify the partition header.

3. Audio Editing:

Burn or Move to partition?..... Do you want to directly copy the data into disc or move them to the partition.
Can't edit HDD...... The hard disk cannot be edited as a source audio disc.
Close all disc's session?...... Confirm the closing of disc sessions.
Continue edit next Disc?..... Ask if you want to continue the music disc editing.
End edit disc and burn?..... Finish the music disc editing and start to copy.
Erase selected Tracks?..... Abort the selected tracks and delete them.
Ins empty disc Continue?.. Do you want to insert a blank disc and continue copying?
Insert next disc...... Insert the next audio disc.
NO AUDIO track in this disc..... The source disc has no audio track.
Sessions were closed already!..... The disc sessions have already been closed.
Target Overflow Re-Select..... The disc capacity is not enough to store the selected tracks. Please select again.
Tgt overflow, del last trk?...... The disc capacity is not enough to store the selected tracks. So, do you want to delete the last track?

4. Firmware Update:

Check Sum Error!...... The udpated firmware has errors.
Flash ROM fail!...... Data cannot be written into Flash ROM.
Invalid firmware ..... The disc doesn't contain a valid firmware.
Last update F/W Fail!..... The firmware is not updated successfully.
Last update F/W OK!..... The firmware is updated successfully.
Searching F/W ..... The system is searching for a valid firmware.
Source can't be Hard Disk!.....During comparison the source cannot be hard disk.

Update F/W xxx to yyy?..... Do you want to update the firmware version from xxx to yyy?

Updating F/W.....The system is updating the firmware.

Technical Support Form

Email: **support@acard.com**
http://www.acard.com

Model	ARS-2030T/2033/2033P/2033S/2039	**F/W Ver.**	

Channel	Model	F/W Version
DVD-ROM		
DVD Writer		

Hard Disk Model/type		
Capacity		
Firmware version		

Others	

Problem Description